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PRELIMINARY DATA ANALYSIS OF DFC DATA BASES
USING AN APPLE II MICROCOMPUTER SYSTEM AND THE INTERACTIVE
STATISTICAL INQUIRY SOFTWARE PACKAGE

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DFC Data Analysis using an APPLE II Microcomputer System

Four separate data files were constructed using the Interactive Statistical Inquiry System (ISIS software package), French version, on the APPLE II microcomputer system available at the AID Mission. Mlle. Tazi, M. Mrini and M. Fares assisted with this task during the week of March 15th - 20th, 1982.

The first file, "DFC Formation" contains the available information for the 31 separate training programs currently being coordinated by the DFC. The programs train three types of personnel for local collectivites, administrative personnel, cadres and technicians. The programs are coded as to their specialization (1= Secretaire; 2=Redacteur Administration Generale; 3= Redacteur Economie Finance; 4=Dessinateur; 5= Conducteur Travaux; 6= Adjoint Technique; 7= Secretaire General de Commune; 8= 9= Cadres des Divisions des Collectivites Locales and 10= Cadres des Divisions Economiques et Sociales). Date of creation is available for each program of study as well as the current enrollment. In cases where a first year course of study produces specialization during the second year, first year students are grouped under

- Redacteur Administration General (although some will specialize in Economie et Finances during the second year).
- Dessinateurs (although some of the males will enter the conducteur de travaux program during the second year of training)

According to these data, 2339 students are currently undergoing training at DFC centers.

Unfortunately data for persons already trained are not disaggregated by program or training center so this information is incomplete in the file (V4) and no total number of trainees has been calculated (v10).

It would appear desirable to add more information to this file - at least the number of faculty and staff for each program as well as expenditures and program costs so that the cost per training each student in a given program can be calculated.

Other useful information to be included in this file might provide information on which to determine possibilities for expanding a program - for example, additional space available in classrooms, dorms, etc.

The file can be easily updated by adding current students to the past graduates and entering new data for current enrollment. It is also possible to start to maintain longitudinal enrollment information by keeping statistics separate for each class.

Disaggregating the student body by sex might be another useful piece of information.

1. AL HOCEIMA SECRETAIRES
2. CASABLANCA SECRETAIRES
3. CASABLANCA REDACTEURS ADMINISTRATION GENERALE
4. CASABLANCA REDACTEURS ECONOMIE FINANCES
5. FES SECRETAIRES
6. FES REDACTEURS ADMINISTRATION GENERALE
7. FES REDACTEURS ECONOMIE FINANCES
8. KENIFRA SECRETAIRES
9. KENJES SECRETAIRES
10. OUJDA SECRETAIRES
11. OUJDA REDACTEUR ADMINISTRATION GENERALE
12. OUJDA REDACTEURS ECONOMIE FINANCES
13. RABAT SECRETAIRES
14. RABAT REDACTEURS ADMINISTRATION GENERALE
15. RABAT REDACTEURS ECONOMIE FINANCES
16. SETTAT SECRETAIRES
17. KENITRA CDCL
18. KENITRA CDES
19. RABAT SOCM
20. CASABLANCA SOCM
21. CASABLANCA DESSINATEURS
22. CASABLANCA CONDUCTEURS DE TRAVAUX
23. CASABLANCA ADJOINTS TECHNIQUES
24. IMMOUZER DESSINATEURS
25. IMMOUZER CONDUCTEURS DE TRAVAUX
26. IMMOUZER ADJOINTS TECHNIQUES
27. MARRAKECH DS CT
28. MARRAKECH ADJOINTS TECHNIQUES
29. OUJDA DS CT
30. OUJDA ADJOINTS TECHNIQUES
31. SALE ADJOINTS TECHNIQUES

	V1 TYPE	V2 SPECIALITE	V3 CREATION	V4 EFF FORME	V5 EFFEF 1E	V6 EFF 2E	V7 EFF TOT	V8 TOT FORME
1 AL HOCEIMA SEC	1	1	1976	0	0	0	0	0
2 CASABLANCA SEC	1	1	1976	0	150	0	150	0
3 CASABLANCA RED	1	2	1980	81	197	94	291	0
4 CASABLANCA RED	1	3	1980	78	0	93	93	0
5 FES SECRETAIRE	1	1	1976	0	86	0	86	0
6 FES REDACTEURS	1	2	1980	42	138	96	234	0
7 FES REDACTEURS	1	3	1980	41	0	57	57	0
8 KENITRA SECRET	1	1	1976	0	0	0	0	0
9 MEKNES SECRETA	1	1	1976	0	60	0	60	0
10 OUJDA SECRETAI	1	1	1976	0	60	0	60	0
11 OUJDA REDACTEU	1	2	1980	44	138	72	210	0
12 OUJDA REDACTEU	1	3	1980	54	0	62	62	0
13 RABAT SECRETAI	1	1	1976	0	181	0	181	0
14 RABAT REDACTEU	1	2	1976	153	138	112	250	0
15 RABAT REDACTEU	1	3	1980	28	0	24	24	0
16 SETTAT SECRETA	1	1	1976	0	35	0	35	0
17 KENITRA CDCL	2	9	1978	182	35	0	35	0
19 KENITRA COES	2	10	1979	64	35	0	35	0
19 RABAT SGCM	2	7	1979	64	37	0	37	0
20 CASABLANCA SGC	2	7	1982	0	35	0	35	0
21 CASABLANCA DES	3	4	1956	0	37	27	64	0
22 CASABLANCA CON	3	5	1956	0	0	19	19	0
23 CASABLANCA ADJ	3	6	1956	0	22	16	38	0
24 IMMOUZER DESSI	3	4	1975	0	47	15	62	0
25 IMMOUZER CONDU	3	5	1975	0	0	22	22	0
26 IMMOUZER ADJOI	3	6	1975	0	26	17	43	0
27 MARRAKECH DS C	3	45	1981	0	76	0	76	0
28 MARRAKECH ADJO	3	6	1981	0	31	0	31	0
29 OUJDA DS CT	3	45	1981	0	25	0	25	0
30 OUJDA ADJOINTS	3	6	1981	0	31	0	31	0
31 SALE ADJOINTS	3	6	1980	0	39	34	73	0
TOTAL	57	199	61259	751	1579	760	2339	0

VARIABLE DESCRIPTION BREVE

DESCRIPTION LONGUE

V1	TYPE	1=ADM 2=CDRE 3=TECH
V2	SPECIALITE	1=SEC 2=REDAG 3=REDEF 4=DS 5=CT 6=AT 7=SGCM 8=HT 9=CDCL 10=COES
V3	CREATION	DATE DE CREATION
V4	EFF FORME	EFFECTIFS FORMES
V5	EFFEF 1E	EFFECTIFS 1ERE ANNEE
V6	EFF 2E	EFFECTIFS 2EME ANNEE
V7	EFF TOT	TOTAL EFFECTIFS FORMES
V8	TOT FORME	TOTAL FORME

A pilot analysis of the data currently being collected by the DFC from the Communal Presidents in all Provinces of the country was undertaken for the Province of Chaouen.

The major objectives of this exercise were to

- demonstrate the file handling structure and analysis capabilities of the currently available APPLE II microcomputer system and the ISIS software package for interactive statistical analysis
- explore the possibilities of analysis of the available data at the commune level and seek out uses for policy formulation and training needs projections on the part of the DFC
- provide an introduction and preliminary training for three junior staff members of the DFC in the operation of a microcomputer system, the use of an interactive statistical software package for data processing and preliminary data analysis. The one week training session emphasized file building and data entry, use of transformation routines to create new variables, the interpretation of univariate statistics (frequencies, means, medians, modes, ranges, variance, standard deviations), contingency table analysis and especially interpretations of correlation matrices.

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Communal Staff 1982

A file was created with characteristics of 102 staff members serving in 11 of the communes of Chouen. Table "I" presents the information for each commune concerning the code for the type of job, administrative level (grade), level of education, number of years of service and birth date for each employee.

Table "2" groups this information by type of job. One immediately notes that among the administrative jobs, the secretaire d'etat civil is the most frequently encountered in these 11 communes, with 22 persons serving in this capacity. This function is followed by chargés de la legalité des signatures (notary publics) with 13 persons serving the 11 communes. There is a noticable lack of secretaries and only 7 aide comptables.

Turning to technical personnel one finds there are two conducteurs de chantier and 3 conducteurs de travaux in the 11 communes, 3 masons and one mechanic.

Table "3"

Turning to the general characteristics of this population we find that 16% or 16 staff members have no formal instruction; 13% have attended Coranique schools and another 10% have only primary school education. No employees have completed secondary school (Titulaire C.E.S. or have a BAC or the equivalent. Obviously it would not make sense to analyze the level of schooling of all the public employees grouped together and one would want to look at each separate category or function. The present analysis is only showing what types of analysis may be considered with a full data set.

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The age structure of these 102 staff personnel is presented in Table "4" . Ages range from 22 years (calculated or estimated on the base of 1982) to 68 years with the average being 35 years old. In terms of number of years of service, we find from Table "5" that the mean is 4.9 years with a maximum of 21 years of service. Only about 15% of the employees have been with the commune for 6 or more years.

Once again, it should be remembered that this very, very preliminary analysis of staffing in 11 communes is only suggestive. It would certainly not be advisable to group gardiens, drivers and administrative secretaries together for most purposes. Each group's characteristics should be treated separately.

Perhaps the most interesting type of analysis of current staff would come from the overall pattern of what functions are filled in each commune. For example, is there a Redacteur, a secretaire, a typist, etc? Under the technical category, is there a conducteur de travaux or the equivalent, a dessinateur, adjoint technique? Once the present staffing pattern has been established, how do the new personnel requested fit in? Will they be filling in holes? Will they be additional members to aid present personnel working in these areas? Is there a common basic pattern of need? Do certain types of communes all need the same pattern of staff in terms of covering basic functions?

7

ETUDE NATIONALE SUR LES BESOINS DE LA FORMATION DANS LES COMMUNES REGIONALES

Cette Etude est entreprise par le President du Conseil Communal

Commune.....Province ou Prefecture.....

Donnees Actuelles: Nombre de Fonctionnaires en Service (en fonction)

Nom et Prenom	Date de Naissance	Cadre	Grade	Echelle	Fonction Exercée	Niveau de Formation	Ancienneté	Budget de Rémunération	Informations (1)

1 - A remplir par les services relevant de la Direction

1 - A remplir par les services relevant de la Direction

2 - Diplômes et Langues

TABLE I

SELECCIONADA POR V(1) NUMERO ORDRE DE LA COMMUNE

	V6 FONCTION	V5 GRADE NIVEAU	V7 FORM ANCIENNETE	V8 NAISSANCE	V4
BAB BERRAT .					
	182	13	27	4	1944
	182	13	27	4	1944
	122	13	24	4	1957
	172	13	24	14	1947
	413	11	18	5	1945
	122	11	24	1	1953
	222	21	26	1	1968
	415	11	22	1	1955
	419	11	11	1	1957
	419	11	11	1	1968
	419	11	11	1	1959
	419	11	18	2	1942
	418	11	18	5	1938
	419	11	8	6	1932
	419	11	8	13	1927
	419	11	8	21	1927
	221	11	8	8	1942
	412	11	8	1	1956
	412	11	8	5	1939
	419	11	8	9	1914
	415	11	18	6	1947
	412	11	8	13	1917
	123	11	11	9	1938
TOTAL DEL GRUPO	7595	271	258	135	44692
MEDIAS DEL GRUPO	338.2	11.8	11.2	5.9	1943.1
DESV. ESTANDARO	128.6	2.1	18.1	5.2	13.3
BNI AHMED RH					
	182	8	25	5	1953
	182	8	25	3	1944
	183	8	22	5	1953
	183	8	22	5	1942
	419	8	18	3	1958
	414	8	21	3	1968
	122	8	21	3	1952
TOTAL DEL GRUPO	1685	8	146	27	13662
MEDIAS DEL GRUPO	248.7	8.8	28.9	3.9	1951.7
DESV. ESTANDARO	113.1	8.8	4.7	1.8	6.2

BNI GRIR

182	13	25	2	1948
182	13	25	2	1958
118	12	24	1	1968
415	11	8	1	1958

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDAR

897	49	74	6	7888
224.3	12.3	18.5	1.5	1952.8
113.2	8.8	18.7	8.5	7.9

BNI RZEN

182	13	25	5	1958
182	13	25	5	1958
182	13	25	5	8
122	13	11	5	8
415	11	18	5	8
123	1	18	5	8
123	1	18	5	8
123	1	18	5	8
419	1	8	5	8
419	1	8	5	8

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDAR

2298	68	126	58	3988
229.8	6.8	12.6	5.8	398.8
125.9	5.8	9.8	8.8	788.8

BNI SMH

182	13	27	5	1941
182	13	25	4	1953
182	13	24	2	1956
118	12	23	14	1946

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDAR

664	51	99	25	7796
166.8	12.8	24.8	6.3	1949.8
27.7	8.4	1.5	4.6	5.9

BBS TAZA

182	13	25	6	1943
182	13	27	5	1943
183	12	22	14	1944
8	-9	-9	8	8
415	11	8	5	1948
223	11	8	4	1953
221	21	27	2	1955
183	12	24	1	1945
412	11	11	5	1951
418	11	11	5	1957
412	11	11	5	1957
413	11	11	4	1968

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDAR

3244	137	169	56	21456
278.3	11.4	14.1	4.7	1788.8
132.9	4.4	18.2	3.3	539.1

DESKOL

182	13	24	14	1944
182	13	26	5	1944
122	12	23	5	1942
183	12	23	3	1952
415	12	23	8	1948
415	12	23	1	1948
419	12	23	1	1955

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDAR

1918	86	165	37	13625
274.8	12.3	23.6	5.3	1946.4
124.8	8.5	1.8	4.2	5.1

FIFI

122	13	24	14	1947
182	13	27	5	1944
182	13	27	5	1942
172	12	24	2	1949
415	11	8	6	1953

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDAR

1873	62	182	32	9735
214.6	12.4	28.4	6.4	1947.8
182.6	8.8	18.3	4.8	3.8

TRAKUS

118	12	26	6	1944
122	12	24	7	1955
183	12	24	2	1949
415	12	8	4	1939
415	12	11	1	1957

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDAR

1253	68	85	28	9744
258.6	12.8	17.8	4.8	1948.8
136.2	8.8	18.8	2.3	6.7

ENI BOUZKA

182	13	24	2	1952
182	13	24	2	1958
183	12	21	5	1953
183	12	27	5	1948
183	12	27	5	1958
415	11	27	3	1958
412	11	27	5	1959
418	11	27	6	1932
419	11	27	18	1937
419	11	27	5	1958
419	11	27	5	1957
412	11	27	1	1968
412	11	27	1	1945
124	1	18	5	1932
124	1	18	5	1938
124	1	18	5	1931
124	1	18	2	1957
419	1	8	5	1925

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDAR

5154	155	379	85	35434
285.3	8.6	21.1	4.7	1946.3
131.4	4.8	8.5	3.6	10.8

ENI ZIATE

	182	13	26	5	1949
	182	13	26	5	1954
	183	12	22	5	1956
	183	12	22	5	1952
	183	12	23	2	1946
	222	21	25	1	1968
	222	13	25	1	1939
	183	12	25	1	0
TOTAL DEL GRUPO	1548	188	194	25	13656
MEDIAS DEL GRUPO	192.5	13.5	24.3	3.1	1787.8
DESV. ESTANDAR	17.8	2.9	1.6	1.9	645.2
TOTAL GENERAL	27313	1847	1797	498	181188

VARIABLE	NOMBRE BREVE	NOMBRE LARGO
V6	FONCTION	FONCTION EXERCEE
V5	GRADE	
V7	NIVEAU FORM	NIVEAU DE FORMATION
V8	ANCIENNETE	
V4	NAISSANCE	

TABLE 2

SELECCIONADA POR V(6) FUNCION EXERCEE

	V1 NO COMMUNE	V2 CERCLE	V3 COMMUNE	V6 FONCTION	V5 GRADE	V7 NIVEAU FORM	V8 ANCIENNETE	V4 NAISSANCE
DACTYLOGRAPH								
1 (4)	6	1	17	118	12	23	14	1946
2 (48)	4	1	13	118	12	24	1	1960
3. (61)	14	3	15	118	12	26	6	1944
TOTAL DEL GRUPO	24	5	45	354	36	73	21	5850
MEDIAS DEL GRUPO	8.0	1.7	15.0	118.0	12.0	24.3	7.0	1950.0
DESV. ESTANDARO	4.3	0.9	1.6	0.0	0.0	1.2	5.4	7.1
RIDE COMPTABLE								
1 (7)	1	1	5	122	13	24	4	1957
2 (10)	1	1	5	122	11	24	1	1953
3. (31)	5	1	15	122	13	11	5	0
4. (48)	3	1	11	122	0	21	3	1952
5. (62)	14	3	15	122	12	24	7	1955
6. (92)	13	3	13	122	13	24	14	1947
7. (99)	12	3	11	122	12	23	5	1942
TOTAL DEL GRUPO	49	13	75	854	74	151	39	11706
MEDIAS DEL GRUPO	7.0	1.9	10.7	122.0	10.6	21.6	5.6	1672.3
DESV. ESTANDARO	5.4	1.0	3.9	0.0	4.4	4.4	3.8	682.7
REGISSEUR								
1 (27)	1	1	5	123	11	11	9	1930
2 (33)	5	1	15	123	1	10	5	0
3. (34)	5	1	15	123	1	10	5	0
4. (35)	5	1	15	123	1	10	5	0
TOTAL DEL GRUPO	16	4	50	492	14	41	24	1930
MEDIAS DEL GRUPO	4.0	1.0	12.5	123.0	3.5	10.3	6.0	482.5
DESV. ESTANDARO	1.7	0.0	4.3	0.0	4.3	0.4	1.7	835.7
CHARGE D'ABATTOIRE								
1 (79)	15	5	5	124	1	10	5	1932
2 (80)	15	5	5	124	1	10	5	1938
3. (81) 1	15	5	5	124	1	10	5	1931
4. (82)	15	5	5	124	1	10	2	1957
TOTAL DEL GRUPO	60	20	20	496	4	40	17	7758
MEDIAS DEL GRUPO	15.0	5.0	5.0	124.0	1.0	10.0	4.3	1939.5
DESV. ESTANDARO	0.0	0.0	0.0	0.0	0.0	0.0	1.3	10.5

SEC. PERSONNEL

1 (8)	1	1	5	172	13	24	14	1947
2 (95)	13	3	13	172	12	24	2	1949
TOTAL DEL GRUPO	14	4	18	344	25	48	16	3896
MEDIAS DEL GRUPO	7.8	2.0	9.0	172.0	12.5	24.8	8.0	1948.0
DESV. ESTANDARO	6.0	1.0	4.0	0.0	0.5	0.0	6.0	1.0

SEC. ETAT CIVIL

1 (1)	6	1	17	182	13	27	5	1941
2 (2)	6	1	17	182	13	25	4	1953
3 (3)	6	1	17	182	13	24	2	1956
4 (5)	1	1	5	182	13	27	4	1944
5 (6)	1	1	5	182	13	27	4	1944
6 (28)	5	1	15	182	13	25	5	1950
7 (29)	5	1	15	182	13	25	5	1950
8 (38)	5	1	15	182	13	25	5	0
9 (38)	4	1	13	182	13	25	2	1948
10 (39)	4	1	13	182	13	25	2	1958
11 (42)	3	1	11	182	0	25	5	1953
12 (43)	3	1	11	182	0	25	3	1944
13 (49)	10	3	5	182	13	25	6	1943
14 (50)	10	3	5	182	13	27	5	1943
15 (66)	15	5	5	182	13	24	2	1952
16 (67)	15	5	5	182	13	24	2	1958
17 (84)	16	5	9	182	13	26	5	1949
18 (85)	16	5	9	182	13	26	5	1954
19 (93)	13	3	13	182	13	27	5	1944
20 (94)	13	3	13	182	13	27	5	1942
21 (97)	12	3	11	182	13	24	14	1944
22 (98)	12	3	11	182	13	26	5	1944
TOTAL DEL GRUPO	181	50	240	4004	260	561	100	40906
MEDIAS DEL GRUPO	8.2	2.3	10.9	182.0	11.8	25.5	4.5	1859.4
DESV. ESTANDARO	4.9	1.5	4.2	0.0	3.7	1.1	2.4	485.8

CHARGE LEGAL SIG.

1 (44)	3	1	11	183	0	22	5	1953
2 (45)	3	1	11	183	0	22	5	1942
3 (51)	10	3	5	183	12	22	14	1944
4 (56)	10	3	5	183	12	24	1	1945
5 (63)	14	3	15	183	12	24	2	1949
6 (68)	15	5	5	183	12	21	5	1953
7 (69)	15	5	5	183	12	27	5	1948
8 (70)	15	5	5	183	12	27	5	1950
9 (86)	16	5	9	183	12	22	5	1956
10 (87)	16	5	9	183	12	22	5	1952
11 (88)	16	5	9	183	12	23	2	1946
12 (91)	16	5	9	183	12	25	1	0
13 (100)	12	3	11	183	12	23	3	1952
TOTAL DEL GRUPO	161	49	109	2379	132	304	58	23390
MEDIAS DEL GRUPO	12.4	3.8	8.4	183.0	10.2	23.4	4.5	1799.2
DESV. ESTANDARO	4.5	1.5	3.1	0.0	4.3	1.9	3.2	519.4

CONDUCTEUR CHANTIER.

1 (21)

2 (55)

1	1	5	221	11	8	8	1942
18	3	5	221	21	27	2	1955

TOTAL DEL GRUPO

MEDIAS DEL GRUPO

DESV. ESTANDARO

11	4	18	442	32	27	18	3897
5.5	2.8	5.8	221.8	16.8	13.5	5.8	1948.5
4.5	1.8	8.8	8.8	5.8	13.5	3.8	6.5

CONDUCTEUR TRAVAUX

1 (11)

2 (89)

3 (98)

1	1	5	222	21	26	1	1968
16	5	9	222	21	25	1	1968
16	5	9	222	13	25	1	1939

TOTAL DEL GRUPO

MEDIAS DEL GRUPO

DESV. ESTANDARO

33	11	23	666	55	76	3	5859
11.8	3.7	7.7	222.8	18.3	25.3	1.8	1953.8
7.1	1.9	1.9	8.8	3.8	8.5	8.8	9.9

TRAV. MUNICIPAL

1 (54)

18	3	5	223	11	8	4	1953
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TOTAL DEL GRUPO

MEDIAS DEL GRUPO

DESV. ESTANDARO

18	3	5	223	11	8	4	1953
18.8	3.8	5.8	223.8	11.8	8.8	4.8	1953.8
8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8

GARDIEN

1 (22)

2 (23)

3 (26)

4 (57)

5 (59)

6 (72)

7 (77)

8 (78)

1	1	5	412	11	8	1	1956
1	1	5	412	11	8	5	1939
1	1	5	412	11	8	13	1917
18	3	5	412	11	11	5	1951
18	3	5	412	11	11	5	1957
15	5	5	412	11	27	5	1958
15	5	5	412	11	27	1	1968
15	5	5	412	11	27	1	1945

TOTAL DEL GRUPO

MEDIAS DEL GRUPO

DESV. ESTANDARO

68	24	48	3296	88	183	36	15584
8.5	3.8	5.8	412.8	11.8	12.9	4.5	1948.8
6.1	1.7	8.8	8.8	8.8	11.7	3.7	13.6

CHAUCH

1 (9)

2 (68)

1	1	5	413	11	18	5	1945
18	3	5	413	11	11	4	1968

TOTAL DEL GRUPO

MEDIAS DEL GRUPO

DESV. ESTANDARO

11	4	18	826	22	21	9	3985
5.5	2.8	5.8	413.8	11.8	18.5	4.5	1952.5
4.5	1.8	8.8	8.8	8.8	8.5	8.5	7.5

MECANICIEN

1 (47)

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESY. ESTANDARO

3	1	11	414	8	21	3	1968
3	1	11	414	8	21	3	1968
3.8	1.8	11.8	414.8	8.8	21.8	3.8	1968.8
8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8

CHAUFFER

1 (12)
2 (25)
3 (32)
4 (41)
5 (53)
6 (64)
7 (65)
8 (71) 1
9 (96)
10 (181)
11 (182)

1	1	5	415	11	22	1	1955
1	1	5	415	11	18	6	1947
5	1	15	415	11	18	5	8
4	1	13	415	11	8	1	1958
18	3	5	415	11	8	5	1948
14	3	15	415	12	8	4	1939
14	3	15	415	12	11	1	1957
15	5	5	415	11	27	3	1958
13	3	13	415	11	8	6	1953
12	3	11	415	12	23	8	1948
12	3	11	415	12	23	1	1948

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESY. ESTANDARO

181	27	113	4565	125	126	41	19487
9.2	2.5	18.3	415.8	11.4	11.5	3.7	1771.5
5.1	1.2	4.2	8.8	8.5	18.2	2.4	568.2

MACHON

1 (17)
2 (58)
3 (73)

1	1	5	418	11	18	5	1938
18	3	5	418	11	11	5	1957
15	5	5	418	11	27	6	1932

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESY. ESTANDARO

26	9	15	1254	33	48	16	5827
8.7	3.8	5.8	418.8	11.8	16.8	5.3	1942.3
5.8	1.6	8.8	8.8	8.8	7.8	8.5	18.7

ENTRETIEN

1 (13)
2 (14)
3 (15)
4 (16)
5 (18)
6 (19)
7 (28)
8 (24)
9 (36)
10 (37)
11 (46)
12 (74)
13 (75)
14 (76)
15 (83)
16 (183)

1	1	5	419	11	11	1	1957
1	1	5	419	11	11	1	1968
1	1	5	419	11	11	1	1959
1	1	5	419	11	18	2	1942
1	1	5	419	11	8	6	1932
1	1	5	419	11	8	13	1927
1	1	5	419	11	8	21	1927
1	1	5	419	11	8	9	1914
5	1	15	419	1	8	5	8
5	1	15	419	1	8	5	8
3	1	11	419	8	18	3	1958
15	5	5	419	11	27	18	1937
15	5	5	419	11	27	5	1958
15	5	5	419	11	27	5	1957
15	5	5	419	11	8	5	1925
12	3	11	419	12	23	1	1955

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESY. ESTANDARO

93	34	112	6784	136	157	181	27288
5.8	2.1	7.8	419.8	8.5	9.8	6.3	1788.8
6.8	1.7	3.8	3.8	3.8	3.8	3.8	3.8

OPENPRO, D2
READPRO

FREQUENCES

VARIABLE 7

NIVEAU DE FORMATION

CODE	ABSOLUTE FREQ.	RELATIVE FREQ. (PCT)	ADJUSTED REL. FREQ. (PCT)	CUM. FREQ. (PCT)
-9	1	1.8	NULLE	
8	16	15.5	15.7	15.7
10	13	12.6	12.7	28.4
11	10	9.7	9.8	38.2
21	3	2.9	2.9	41.2
22	6	5.8	5.9	47.1
23	7	6.8	6.9	53.9
24	13	12.6	12.7	66.7
25	12	11.7	11.8	78.4
26	5	4.9	4.9	83.3
27	17	16.5	16.7	100.0
TOTAL		100.0	100.0	

OBSERVATIONS VALIDES: 182

OBSERVATIONS NULLES: 1

MODE	27	MEDIANNE	23	MOYENNE	17.618
MINIMUM	8	MAXIMUM	27	ETENDUE	27
				ECART-TYPE	9.672
VARIATION RATIO	0.833			VARIANCE	93.558
				COEFF. VAR.	0.549
ERREUR STANDARD	0.953			SOMME	1797.000

FREQUENCES

VARIABLE 10

AGE ESTIME EN 1982

CODE	ABSOLUTE FREQ.	RELATIVE FREQ. (PCT)	ADJUSTED REL. FREQ. (PCT)	CUM. FREQ. (PCT)
-99	18	9.7	NULLE	
22	7	6.8	7.5	7.5
23	2	1.9	2.2	9.7
24	3	2.9	3.2	12.9
25	7	6.8	7.5	20.4
26	3	2.9	3.2	23.7
27	4	3.9	4.3	28.0
28	1	1.0	1.1	29.0
29	7	6.8	7.5	36.6
30	4	3.9	4.3	40.9
31	1	1.0	1.1	41.9
32	6	5.8	6.5	48.4
33	3	2.9	3.2	51.6
34	3	2.9	3.2	54.8
35	3	2.9	3.2	58.1
36	2	1.9	2.2	60.2
37	3	2.9	3.2	63.4
38	8	7.8	8.6	72.0
39	2	1.9	2.2	74.2
40	5	4.9	5.4	79.6
41	1	1.0	1.1	80.6
42	2	1.9	2.2	82.8
43	3	2.9	3.2	86.0
44	2	1.9	2.2	88.2
45	1	1.0	1.1	89.2
50	3	2.9	3.2	92.5
51	1	1.0	1.1	93.5
52	1	1.0	1.1	94.6
55	2	1.9	2.2	96.8
57	1	1.0	1.1	97.8
65	1	1.0	1.1	98.9
68	1	1.0	1.1	100.0
TOTAL		100.0	100.0	

OBSERVATIONS VALIDES: 93

OBSERVATIONS NULLES: 18

MODE	38	MEDIANNE	33	MOYENNE	34.682
MINIMUM	22	MAXIMUM	68	ETENDUE	46
				ECART-TYPE	9.743
VARIATION RATIO	0.914			VARIANCE	94.928
				COEFF. VAR.	0.282
ERREUR STANDARD	0.960			SOMME	3218.000

FREQUENCES

VARIABLE 8

ANCIENNETE

CODE	ABSOLUTE FREQ.	RELATIVE FREQ. (PCT)	ADJUSTED REL. FREQ. (PCT)	CUM. FREQ. (PCT)
0	1	1.0	NULLE	
1	18	17.5	17.6	17.6
2	11	10.7	10.8	28.4
3	6	5.8	5.9	34.3
4	7	6.8	6.9	41.2
5	48	38.8	39.2	80.4
6	6	5.8	5.9	86.3
7	1	1.0	1.0	87.3
8	2	1.9	2.0	89.2
9	2	1.9	2.0	91.2
13	2	1.9	2.0	93.1
14	5	4.9	4.9	98.0
18	1	1.0	1.0	99.0
21	1	1.0	1.0	100.0
TOTAL		100.0	100.0	

OBSERVATIONS VALIDES: 102

OBSERVATIONS NULLES: 1

MODE	5	MEDIANNE	5	MOYENNE	4.882
MINIMUM	1	MAXIMUM	21	ETENDUE	20
				ECART-TYPE	3.758
VARIATION RATIO	0.608			VARIANCE	14.065
				COEFF. VAR.	0.768
ERREUR STANDARD	0.370			SOMME	492.000

Project Analysis

A file for 101 projects planned for 1981-85 in 13 of the 23 communes of Chaouen Province was also established. Time limitations did not allow the completion of data entry for all 23 provinces so the analysis will provide only a model. (Table "6")

Information was available for the type of each project and the credits foreseen for each year of the 5 year period. (Table "7")

Preliminary analysis indicates that 33% of the projects planned for these 13 communes involve the construction of schools, 21% of the projects are related to the maintenance of souks and 13%, potable water. (Table "8")

Table lists the projects by type, indicating the basic information on each project by commune. Totals, means (medias) and standard deviations (desv. estandard) are provided for each type of project. One can see from this table, for example, that the average credit for these 34 school construction projects is 83.2 thousand dirhams and the total for all school projects listed is 6230 thousand dirhams for the 1981-85 period.

The 21 projects for development of souks have a total investment credit of 6910 thousand dirhams, or an average credit of 329.0 dirhams per project. Planned investments in potable water for these 13 communes total 7950 thousand dirhams with an average credit of 611.5 per project over the 5 year period. Of the total investment credit for these 13 communes for the 1981-85 period of 42530 thousand dirhams, 21090 thousand dirhams or approximately 50% are destined for these three types of basic infrastructure investment which make up 67% of the planned projects. Such a pattern might be interpreted that a large number of technicians will be needed

to construct schools, develop souks and work with potable water systems. Specialized training for these specialities might be envisaged in regions where this type of project implementation pattern is encountered.

Further analysis of projects may be done by combining aggregated data on the types of projects planned and the available credits with commune level data available in the Economic region file where communes are the unit of analysis. For example one could look at the types of projects (especially the major types, schools, souks, potable water) by the number and types of technical assistance sought. Again the credits for projects can be related to the number and types of technicians requested.

At such time that information on existing communal infrastructure is available, the pattern of development of basic services can be examined and the fit of the planned projects into existing patterns can be analyzed.

At the present time, because only projects for 13 of the 23 communes of Chaouen were analyzed, it was feasible to incorporate the total of projects planned for 1981-85 with the commune level data and provide an example of potential for bivariate analysis.

Table "9" provides the frequency distribution for the total number of projects reported to be planned for all 23 communes of Chaouen. A total of 187 projects are envisaged and each commune expects at least 5 projects. One commune has listed 14 separate projects but the average is 8 projects per commune.

An obvious question to pose is how is the number of development projects related to the number of technical personnel needed by the communes over the next few years.

21

An estimate of the total number of technical personnel needed for the 1982-90 period has been calculated (Variable # 95).

The number of technicians requested ranges from a low of one to 16 with an average of 6.6. A total of 152 new technicians may be expected to be needed for communal projects according to these figures.

The need for technicians was broken down into four categories: 1 to 3 persons, 4 to 6, 7 to 9 and 10 and more and stored as variable # 96. Table "10" presents a contingency table analysis of the level of future technical personnel need by the actual number of development projects envisaged. One expects that communes with few development projects planned would request fewer technicians while communes with a large number of projects on the drawing boards would express a need for many additional persons.

While this general pattern can be discovered in the table, the relationship is very moderate. The Gamma measure of association is only .20. The interpretation must be reserved, however, because the very small number of cases (N=23) does not justify a table of this size. Let's just say, such analysis may be performed using all communes in an economic region with satisfactory results.

Further analysis of what types of personnel are required (drafts-⁶persons, conducteurs de travaux, adjoints techniques, etc.) should follow preliminary analysis of the numbers needed for each type of project.

PROJECTS INSCRITS DANS LE PLAN QUINQUENAL

(1985 - 1981)

= X =

Nature du Projet	Lieu de realisation	Annee	C R E D I T S (bil)				
			1981	1982	1983	1984	1985

Les presidents des Conseils Communaux sont
pries de nous transmettre cette etude
apres objet rempli
Avant.....

5- Nombre de parts budgetaires vacants

6- Observations

4.	BAB BERRAT	BUREAU-PTT	44.	BNISMIH	DIST-EAU	101.	FIFI	FOYER-FEM	150.	TLATASSIFANE	BOUTIQUES
2.	BAB BERRAT	COMPLEXE-COM	42.	BNISMIH	LOGEMENTS	93.	FIFI	LOGEMENTS	161.	TLATASSIFANE	DIST-EAU
6.	BAB BERRAT	DISTR-EAU	41.	BNISMIH	SIEGE-COMM	99.	FIFI	REP-REV-RT	160.	TLATASSIFANE	FOUR-BAIN
7.	BAB BERRAT	DISTR-ELEC	39.	BNISMIH	SOUK	100.	FIFI	ROUTES	159.	TLATASSIFANE	LOGEMENTS
9.	BAB BERRAT	EGOUTS	122.	BNIZIATE	ADD	92.	FIFI	SOUK	155.	TLATASSIFANE	MOSQUEE
3.	BAB BERRAT	LOGEMENTS	123.	BNIZIATE	ADD-EAU	94.	FIFI	TRIB-COMM	156.	TLATASSIFANE	SIEGE-COMM
8.	BAB BERRAT	REP-REV-ROUTES	124.	BNIZIATE	ADD-EAU	176.	MOKRISSAT	ADD-EAU	157.	TLATASSIFANE	SOUK
1.	BAB BERRAT	SOUK	117.	BNIZIATE	BOUTIQUES	174.	MOKRISSAT	BUREAU-PTT	179.	ZOUNI	BOUTIQUES
18.	BAB BERRAT	SOUK	121.	BNIZIATE	BUREAU-PTT	177.	MOKRISSAT	EGOUTS	180.	ZOUNI	SOUK
5.	BAB BERRAT	TERRAIN SPORT	128.	BNIZIATE	CAMPING	175.	MOKRISSAT	FOUR-BAIN			
66.	BABTAZA	BUREAU-PTT	129.	BNIZIATE	COMP-SPORT	178.	MOKRISSAT	REPARATION			
67.	BABTAZA	COMP-SPORT	125.	BNIZIATE	DIST-ELEC	173.	MOKRISSAT	TRIB-COMM			
70.	BABTAZA	COMPLEXECOM	126.	BNIZIATE	EGOUTS	54.	MTIOUA	DIST-EAU			
64.	BABTAZA	DIST-EAU	118.	BNIZIATE	LOGEMENTS	55.	MTIOUA	DIST-ELEC			
73.	BABTAZA	EGOUTS	119.	BNIZIATE	MOSQUEE	58.	MTIOUA	EGOUTS			
68.	BABTAZA	FOYERFEM	127.	BNIZIATE	ROUTES	57.	MTIOUA	FOYERJEUNE			
69.	BABTAZA	LOGEMENTS	116.	BNIZIATE	SOUK	52.	MTIOUA	LOGEMENTS			
71.	BABTAZA	REP-ROUTES	120.	BNIZIATE	TRIB-COMM	56.	MTIOUA	REP-REV-RT			
72.	BABTAZA	SOUK	162.	BRIKCHA	BOUTIQUES	51.	MTIOUA	SOUK			
65.	BABTAZA	TRIB-COMM	171.	BRIKCHA	BOUTIQUES	53.	MTIOUA	TERR-S			
15.	BNI AHMEDCH	DIST-EAU	166.	BRIKCHA	BUREAU-PTT	134.	SEBTASSIFANE	BUREAU-PTT			
16.	BNI AHMEDCH	EGOUTS	168.	BRIKCHA	DIST-EAU	130.	SEBTASSIFANE	COMPLEXECOM			
14.	BNI AHMEDCH	FOYER-FEM	169.	BRIKCHA	EGOUTS	136.	SEBTASSIFANE	DIST-EAU			
17.	BNI AHMEDCH	REP-REV	165.	BRIKCHA	LOGEMENTS	135.	SEBTASSIFANE	FOUR-BAIN			
19.	BNI AHMEDCH	COMPLEXECOM	172.	BRIKCHA	LOGEMENTS	132.	SEBTASSIFANE	LOGEMENTS			
21.	BNI AHMEDCH	LOGEMENTS	170.	BRIKCHA	REP-REV-RT	137.	SEBTASSIFANE	ROUTE			
20.	BNI AHMEDCH	SIEGE-COMM	164.	BRIKCHA	SIEGE-COMM	131.	SEBTASSIFANE	SOUK			
18.	BNI AHMEDCH	SOUK	163.	BRIKCHA	SOUK	133.	SEBTASSIFANE	TRIB-COMM			
30.	BNI-GRIR	BUREAU-PTT	167.	BRIKCHA	TRIB-COMM	150.	TALEMBJANOU	BUREAU-PTT			
13.	BNIAHAMEDCH	BUREAU-PTT	74.	DERDARA	BOUTIQUES	149.	TALEMBJANOU	FOUR-BAIN			
11.	BNIAHAMEDCH	COMPLEXECOM	78.	DERDARA	BUREAU-PTT	148.	TALEMBJANOU	LOGEMENTS			
12.	BNIAHAMEDCH	LOGEMENTS	81.	DERDARA	DISPENSARE	153.	TALEMBJANOU	ROUTES			
22.	BNIAHAMEDCH	BUREAU-PTT	82.	DERDARA	DIST-EAU	152.	TALEMBJANOU	ROUTES			
26.	BNIAHAMEDCH	DISTR-EAU	80.	DERDARA	FOUR-BAIN	147.	TALEMBJANOU	SOUK			
24.	BNIAHAMEDCH	DISPENSARE	75.	DERDARA	LOGEMENTS	151.	TALEMBJANOU	TRIB-COMM			
25.	BNIAHAMEDCH	FOUR-BAIN	77.	DERDARA	LOGEMENTS	138.	TALEMBOTECH	ADD-EAU			
23.	BNIAHAMEDCH	MOSQUEE	79.	DERDARA	MOSQUEE	139.	TALEMBOTECH	ADD-EAU			
113.	BNIBOUZRA	ADD-EAU	83.	DERDARA	REP-REV-RT	140.	TALEMBOTECH	ADD-EAU			
112.	BNIBOUZRA	BUREAU-PTT	76.	DERDARA	SIEGE-COMM	141.	TALEMBOTECH	ADD-EAU			
114.	BNIBOUZRA	EGOUTS	84.	DERKOU	BOUTIQUES	144.	TALEMBOTECH	BOUTIQUES			
110.	BNIBOUZRA	LOGEMENTS	88.	DERKOU	DIST-EAU	146.	TALEMBOTECH	BUREAU-PTT			
111.	BNIBOUZRA	LOT-COMM	89.	DERKOU	LOGEMENTS	145.	TALEMBOTECH	FOUR-BAIN			
115.	BNIBOUZRA	ROUTES	86.	DERKOU	ROUTES	143.	TALEMBOTECH	LOGEMENTS			
109.	BNIBOUZRA	SOUK	85.	DERKOU	SOUK	142.	TALEMBOTECH	SOUK			
31.	BNIGRIR	LOGEMENTS	87.	DERKOU	SOUK	59.	TAMOROT	COMPLEXECOM			
29.	BNIGRIR	LOGEMENTS	90.	DERKOU	TRIB-COMM	63.	TAMOROT	DIST-EAU			
27.	BNIGRIR	SIEGE-COMM	48.	ELMELHA	BUREAU-PTT	61.	TAMOROT	LOGEMENTS			
28.	BNIGRIR	SOUK	46.	ELMELHA	COMPLEXECOM	62.	TAMOROT	MOSQUEE			
35.	BNIRZEN	BUREAU-PTT	50.	ELMELHA	DIST-EAU	60.	TAMOROT	SOUK			
33.	BNIRZEN	COMPLEXECOM	47.	ELMELHA	LOGEMENTS	102.	TANKOUB	BOUTIQUES			
38.	BNIRZEN	DIST-EAU	49.	ELMELHA	MOSQUEE	107.	TANKOUB	DIST-EAU			
36.	BNIRZEN	DISPENSARE	45.	ELMELHA	SOUK	105.	TANKOUB	FOUR-BAIN			
37.	BNIRZEN	FOUR-BAIN	98.	FIFI	ADD-EAU	104.	TANKOUB	LOGEMENTS			
34.	BNIRZEN	LOGEMENTS	91.	FIFI	BOUTIQUES	100.	TANKOUB	REP-REV-RT			
32.	BNIRZEN	SOUK	95.	FIFI	BUREAU-PTT	103.	TANKOUB	SOUK			
43.	BNISHIH	BUREAU-PTT	96.	FIFI	DISPENSARE	105.	TANKOUB	TRIB-COMM			
40.	BNISHIH	COMPLEXECOMM	97.	FIFI	FOUR-BAIN	154.	TLAT	BUREAU-PTT			

TABLE 7

** ISIS, VERSION 2.1 **

NOM DU FICHIER — CHAQUE PROJET

	V1 PROVINCE	V2 CERCLE	V3 COMMUNE	V4 TYPE PROJE	V5 CREDITS-81	V6 CREDITS-82	V7 CREDITS-83	V8 CREDITS-84	V9 CREDITS-85	V10 TOT-81-85
1 SOUK	15	1	5	31	0	70	0	0	0	70
2 COMPLEXE-COM	15	1	5	32	0	0	0	0	0	0
3 LOGEMENTS	15	1	5	12	0	0	0	0	600	600
4 BUREAU-PTT	15	1	5	12	200	0	200	200	0	400
5 TERRAIN SPORT	15	1	5	13	0	400	0	0	0	200
6 DISTR-EAU	15	1	5	22	200	0	0	500	500	1200
7 DISTR-ELEC	15	1	5	21	0	0	2700	1600	0	4300
8 REP-REV-ROUTES	15	1	5	43	200	0	600	0	0	800
9 EGOUTS	15	1	5	42	250	200	0	0	0	530
10 SOUK	15	1	9	31	0	0	0	200	470	670
11 COMPLEXE-COM	15	1	9	32	0	0	300	0	0	300
12 LOGEMENTS	15	1	9	12	100	300	0	0	0	400
13 BUREAU-PTT	15	1	9	12	0	0	120	0	0	120
14 FOYER-FEM	15	1	9	14	0	0	0	0	450	450
15 DISTR-EAU	15	1	9	22	100	300	300	300	350	1350
16 EGOUTS	15	1	9	42	450	0	0	50	0	500
17 REP-REV	15	1	9	43	0	0	0	350	350	700
18 SOUK	15	1	11	31	0	0	0	250	250	500
19 COMPLEXE-COM	15	1	11	31	0	0	100	0	0	100
20 SIEGE-COMM	15	1	11	12	320	0	0	0	0	320
21 LOGEMENTS	15	1	11	12	0	120	120	0	0	240
22 BUREAU-PTT	15	1	11	12	0	0	0	80	0	80
23 MOSQUEE	15	1	11	14	0	100	0	0	0	100
24 DISPENSARE	15	1	11	12	0	0	0	60	0	60
25 FOUR-BAIN	15	1	11	12	0	0	200	0	0	200
26 DISTR-EAU	15	1	11	22	100	150	100	0	100	450
27 SIEGE-COMM	15	1	13	27	320	0	0	0	0	320
28 SOUK	15	1	13	31	350	350	0	0	0	700
29 LOGEMENTS	15	1	13	12	120	120	0	0	0	240
30 BUREAU-PTT	15	1	13	12	80	0	0	0	0	80
31 LOGEMENTS	15	1	13	12	0	0	0	100	0	100
32 SOUK	15	1	15	31	100	150	0	0	0	250
33 COMPLEXE-COM	15	1	15	31	0	0	120	0	0	120
34 LOGEMENTS	15	1	15	12	80	80	80	0	0	240
35 BUREAU-PTT	15	1	15	12	0	0	0	80	0	80
36 DISPENSARE	15	1	15	11	0	0	0	0	50	50
37 FOUR-BAIN	15	1	15	32	0	0	0	0	200	200
38 DISTR-EAU	15	1	15	22	0	300	0	300	0	600
39 SOUK	15	1	17	31	0	100	200	200	0	500
40 COMPLEXE-COM	15	1	17	31	0	0	0	100	0	100
41 SIEGE-COMM	15	1	17	12	320	0	0	0	0	320
42 LOGEMENTS	15	1	17	12	0	240	0	0	0	240
43 BUREAU-PTT	15	1	17	12	0	0	0	80	0	80
44 DISTR-EAU	15	1	17	22	0	0	0	300	300	600
45 SOUK	15	1	17	31	0	0	0	350	350	700
46 COMPLEXE-COM	15	1	19	32	0	0	0	0	0	0
47 LOGEMENTS	15	1	19	12	0	80	0	0	0	80
48 BUREAU-PTT	15	1	19	12	0	0	80	0	0	80
49 MOSQUEE	15	1	19	14	0	0	100	0	0	100
50 DISTR-EAU	15	1	19	22	150	150	0	0	0	300

25

POUEN PROJETS	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
51 SOUK	15	1	21	31	0	0	0	250	450	700
52 LOGEMENTS	15	1	21	12	0	0	200	200	0	400
53 TERR-S	15	1	21	13	0	0	400	0	0	400
54 DIST-EAU	15	1	21	22	300	200	0	0	500	1000
55 DIST-ELEC	15	1	21	21	0	0	0	1300	3100	4400
56 REP-REV-RT	15	1	21	43	0	400	0	400	0	800
57 FOYER-JEUNE	15	1	21	14	0	0	0	0	450	450
58 EGOUTS	15	1	21	42	0	0	0	350	0	350
59 COMPLEXEDOM	15	1	23	31	0	0	100	0	0	100
60 SOUK	15	1	23	31	100	300	0	0	0	400
61 LOGEMENTS	15	1	23	12	0	0	0	200	0	200
62 MOSQUEE	15	1	23	22	0	0	0	0	300	300
63 DIST-EAU	15	1	23	22	0	0	0	0	300	300
64 DIST-EAU	15	3	5	22	50	0	0	0	0	50
65 TRIB-COMM	15	3	5	12	0	50	0	0	0	50
66 BUREAU-PTT	15	3	5	12	0	20	0	0	0	20
67 CAMP-SPORT	15	3	5	13	0	0	0	400	0	400
68 FOYER-FEM	15	3	5	14	0	0	0	600	0	600
69 LOGEMENTS	15	3	5	12	120	120	0	0	0	240
70 COMPLEXEDOM	15	3	5	31	0	0	0	100	0	100
71 REP-ROUTES	15	3	5	43	200	200	200	200	0	800
72 SOUK	15	3	5	31	50	50	100	100	300	600
73 EGOUTS	15	3	5	42	100	100	100	100	130	530
74 BOUTIQUES	15	3	9	31	0	100	0	0	0	100
75 LOGEMENTS	15	3	9	12	0	0	0	220	560	780
76 SIEGE-COMM	15	3	9	12	0	0	0	0	0	0
77 LOGEMENTS	15	3	9	12	160	100	0	0	0	260
78 BUREAU-PTT	15	3	9	12	0	0	0	60	0	60
79 MOSQUEE	15	3	9	14	100	0	0	0	0	100
80 FOUR-BAIN	15	3	9	32	0	0	0	200	0	200
81 DISPENSAIRE	15	3	9	11	0	0	60	0	0	60
82 DIST-EAU	15	3	9	22	100	0	100	100	0	300
83 REP-REV-RT	15	3	9	43	0	0	0	400	0	400
84 BOUTIQUES	15	3	11	31	0	0	100	0	0	100
85 SOUK	15	3	11	31	0	100	0	0	0	100
86 ROUTES	15	3	11	43	0	0	0	200	200	400
87 SOUK	15	3	11	31	0	0	0	200	200	400
88 DIST-EAU	15	3	11	22	0	200	200	200	200	800
89 LOGEMENTS	15	3	11	12	80	0	0	80	0	160
90 TRIB-COMM	15	3	11	12	0	0	50	0	0	50
91 BOUTIQUES	15	3	13	31	0	100	0	0	0	100
92 SOUK	15	3	13	31	0	0	0	250	250	500
93 LOGEMENTS	15	3	13	12	120	120	0	0	0	240
94 TRIB-COMM	15	3	13	12	50	0	0	0	0	50
95 BUREAU-PTT	15	3	13	12	0	0	80	0	0	80
96 DISPENSAIRE	15	3	13	12	0	0	60	0	0	60
97 FOUR-BAIN	15	3	13	32	0	0	0	0	200	200
98 ADD-EAU	15	3	13	22	300	100	200	100	0	700
99 REP-REV-RT	15	3	13	42	0	0	0	0	400	400
100 ROUTES	15	3	13	43	350	130	220	-200	200	1100
FOYER-FEM	15	3	13	14	0	0	0	400	0	400

26

FREQUENCES

VARIABLE 4

TYPE DE PROJET PREVU 1981-85

	CODE	ABSOLUTE FREQ.	RELATIVE FREQ. (PCT)	ADJUSTED REL. FREQ. (PCT)	CUM. FREQ. (PCT)
	0	79	43.9	NULLE	
Dispensaires	11	2	1.1	2.8	2.8
Ecoles	12	34	18.9	33.7	35.6
Complx. sportifs.	13	3	1.7	3.8	38.6
Etabl. culturels	14	7	3.9	6.9	45.5
Eclairage public	21	2	1.1	2.8	47.5
Eau potable	22	13	7.2	12.9	60.4
Siege communal	27	1	0.6	1.8	61.4
Entretien des souks	31	21	11.7	20.8	82.2
Four + bain	32	6	3.3	5.9	88.1
Reparation	42	5	2.8	5.8	93.1
Revetement des routes	43	7	3.9	6.9	100.8
	TOTAL		100.8	100.8	

OBSERVATIONS VALIDES: 101

OBSERVATIONS NULLES: 79

MODE	12	MEDIANNE	22	MOYENNE	22.535
MINIMUM	11	MAXIMUM	43	ETENDUE	32
				ECART-TYPE	10.772
VARIATION RATIO	0.553			VARIANCE	116.031
				COEFF. VAR.	0.478
ERREUR STANDARD	0.883			SOMME	2276.000

I. SECRETAIRES ET REDACTEURS

CENTRE DE FORMATION	SECRETAIRES		REDACTEURS								TOTAL EFFECTIF ACTUEL	
	Date de Création	Effectifs Actuels	Date de Création	Effectifs formés			Effectifs actuels					
				Administra- tion Générale	Economie Finances	TOTAL	1ère année	2ème année		TOTAL		
								Administra- tion général le	Economie Finances			Total
AL ROCEIMA.....	1976	0	-	-	-	-	-	-	-	-	-	-
CASABLANCA.....	1976	150	01/1980	81	78	159	-	-	-	-	-	-
YES.....	1976	86	01/1980	42	41	83	197	94	93	187	384	534
KHENIFRA.....	1976	0	-	-	-	-	138	96	57	153	291	377
MEKNES.....	1976	60	-	-	-	-	-	-	-	-	-	-
OUJDA.....	1976	60	01/1980	44	54	98	-	-	-	-	-	-
RABAT.....	1976	101	01/1980	153	28	181	138	72	62	134	272	332
SETTAT.....	1976	35	-	-	-	-	138	112	24	136	274	375
TOTAL	-	492	-	320	201	521	611	374	236	610	1221	1713

TOTAL DES EFFECTIFS FORMES

II. CADRES

652 Secrétaires et 521 Rédacteurs

II. CADRES

C A D R E S	Date d'entrée	Effectifs actuels
C.D.C.L.	10/1978	35
C.D.E.S.	10/1979	35
B.O.C.H.	01/1979	37
" "	01/1982	35
TOTAL	-	142

III. DESSINATEURS, CONDUCTEURS DE TRAVAUX ET ADJANTS TECHNIQUES

CENTRE DE FORMATION	DESSINATEURS, CONDUCTEURS DE TRAVAUX ET ADJOINTS TECHNIQUES									
	DATE DE CREATION	EFFECTIFS ACTUELS				ADJOINTS TECHNIQUES				TOTAL
		1ère année	2ème année			Date de création	1ère année	2ème année	Total	
			DS	CT	TOTAL					
CASABLANCA.....	1956	37	27	19	83	1956	22	16	38	121
IMMOUZER.....	1975	47	15	22	84	1975	26	17	43	127
MARRAKECH.....	112/1981	76	-	-	76	12/1981	31	-	31	107
OUJDA.....	112/1981	25	-	-	25	12/1981	31	-	31	55
SALE (Horticulture).....	110/1980	-	-	-	-	10/1980	39	34	73	55
TOTAL	-	185	42	41	268	-	144	67	211	472
TOTAL DES EFFECTIFS FORMES :										
Dessinateurs (DS)..... 354										
Conducteurs de travaux (CT)..... 435										
Adjointes Techniques (AT)..... 552										

TOTAL DES EFFECTIFS FORMES

Dessinateurs (DS).....	354
Conducteurs de travaux (CT).....	435
Adjoints Techniques (AT).....	552

TABLE 9

*** ISIS, VERSION 2.1 ***

NOM DU FICHIER -- REGION ECO 1

FREQUENCES

VARIABLE 99

TOTAL PROJETS PREVUS 1981-85

CODE	ABSOLUTE FREQ.	RELATIVE FREQ. (PCT)	ADJUSTED REL. FREQ. (PCT)	CUM. FREQ. (PCT)
5	3	13.0	13.0	13.0
7	6	26.1	26.1	39.1
8	5	21.7	21.7	60.9
9	4	17.4	17.4	78.3
10	4	17.4	17.4	95.7
14	1	4.3	4.3	100.0
TOTAL		100.0	100.0	

OBSERVATIONS VALIDES: 23

OBSERVATIONS NULLES: 0

MODE	7	MEDIANNE	8	MOYENNE	8.138
MINIMUM	5	MAXIMUM	14	ETENDUE	9
VARIATION RATIO	0.739			ECART-TYPE	1.963
				VARIANCE	3.853
				COEFF. VAR.	0.241
ERREUR STANDARD	0.409			SOMME	187.000

FREQUENCES

VARIABLE 95

TOTAL BESOINS PERSONNEL TECHNIQUE 82-98

CODE	ABSOLUTE FREQ.	RELATIVE FREQ. (PCT)	ADJUSTED REL. FREQ. (PCT)	CUM. FREQ. (PCT)
1	1	4.3	4.3	4.3
2	3	13.0	13.0	17.4
3	1	4.3	4.3	21.7
4	4	17.4	17.4	39.1
5	2	8.7	8.7	47.8
6	2	8.7	8.7	56.5
8	1	4.3	4.3	60.9
9	4	17.4	17.4	78.3
10	2	8.7	8.7	87.0
11	1	4.3	4.3	91.3
13	1	4.3	4.3	95.7
16	1	4.3	4.3	100.0
TOTAL		100.0	100.0	

OBSERVATIONS VALIDES: 23

OBSERVATIONS NULLES: 0

MODE	9	MEDIANNE	6	MOYENNE	6.689
MINIMUM	1	MAXIMUM	16	ETENDUE	15
				ECART-TYPE	3.831
VARIATION RATIO	0.826			VARIANCE	14.673
				COEFF. VAR.	0.580
ERREUR STANDARD	0.799			SOMME	152.000

 TOTAL PROJETS PREVUS 1981-85 PAR BESOINS DE PERSONNEL TECHNIQUE 1982-90 1-3 4-6 7-9 10+

VARIABLE	VARIABLE 99	#PROJETS						
96	I							
BSTECH82	-I	5 I	7 I	8 I	9 I	10 I	14 I	
90	-I	-I	-I	-I	-I	-I	-I	
1 - 3	I	0 I	1 I	2 I	1 I	1 I	0 I	5
	I	0% I	16.6% I	40% I	25% I	25% I	0% I	21.7%
	-I	-I	-I	-I	-I	-I	-I	
4 - 6	I	2 I	3 I	2 I	0 I	1 I	0 I	8
	I	66.6% I	50% I	40% I	0% I	25% I	0% I	34.7%
	-I	-I	-I	-I	-I	-I	-I	
7 - 9	I	1 I	1 I	1 I	1 I	1 I	0 I	5
	I	33.3% I	16.6% I	20% I	25% I	25% I	0% I	21.7%
	-I	-I	-I	-I	-I	-I	-I	
10 +	I	0 I	1 I	0 I	2 I	1 I	1 I	5
	I	0% I	16.6% I	0% I	50% I	25% I	100% I	21.7%
	-I	-I	-I	-I	-I	-I	-I	
		3	6	5	4	4	1	23
		13%	26%	21.7%	17.3%	17.3%	4.3%	100.0%

CHI CARREE = 11.5479167 AVEC 15 DEGRES DE LIBERTE.

GAMMA = .197538864 V DE CRAMER = .354289195

D DE SOMERS (VAR. INDEP. : COLONNE) = .158234742

D DE SOMERS (VAR. INDEP. : LIGNE) 164182564

SELECCIONADA POR V(4)

	V1 PROVINCE	V2 CERCLE	V3 COMMUNE	V5 CREDITS-81	V6 CREDITS-82	V7 CREDITS-83	V8 CREDITS-84	V9 CREDITS-85	V10 TOT-81-85
DISPENSAIRES									
BNIRZEN	15	1	15	0	0	0	0	50	50
DERDARA	15	3	9	0	0	60	0	0	0
TOTAL DEL GRUPO	30	4	24	0	0	60	0	50	50
MEDIAS DEL GRUPO	15.0	2.0	12.0	0.0	0.0	30.0	0.0	25.0	25.0
DESV. ESTANDARO	0.0	1.0	3.0	0.0	0.0	30.0	0.0	25.0	25.0
ECOLE									
BAB BERRAT	15	1	5	0	0	200	200	0	400
BAB BERRAT	15	1	5	200	0	0	0	0	200
BNIAHMEDCH	15	1	9	100	300	0	0	0	400
BNIAHMEDCH	15	1	9	0	0	120	0	0	120
BNI AHMEDRH	15	1	11	320	0	0	0	0	320
BNI AHMEDRH	15	1	11	0	120	120	0	0	240
BNIAHMEDRH	15	1	11	0	0	0	80	0	80
BNIAHMEDRH	15	1	11	0	0	0	60	0	60
BNIAHMEDRH	15	1	11	0	0	200	0	0	200
BNIGRIR	15	1	13	120	120	0	0	0	240
BNI-GRIR	15	1	13	80	0	0	0	0	80
BNIGRIR	15	1	13	0	0	0	100	0	100
BNIRZEN	15	1	15	0	0	0	0	0	0
BNIRZEN	15	1	15	0	0	0	0	0	0
BNISNIH	15	1	17	320	0	0	0	0	320
BNISNIH	15	1	17	0	240	0	0	0	240
BNISNIH	15	1	17	0	0	0	80	0	80
ELMELHA	15	1	19	0	0	0	0	0	0
ELMELHA	15	1	19	0	0	0	0	0	0
MTIOUR	15	1	21	0	0	200	200	0	400
TAMOROT	15	1	23	0	0	0	200	0	200
BABTAZA	15	3	5	0	50	0	0	0	50
BABTAZA	15	3	5	0	20	0	0	0	20
BABTAZA	15	3	5	120	120	0	0	0	240
DERDARA	15	3	9	0	0	0	220	560	780
DERDARA	15	3	9	0	0	0	0	0	0
DERDARA	15	3	9	160	100	0	0	0	260
DERDARA	15	3	9	0	0	0	80	0	80
DERKOU	15	3	11	80	0	0	80	0	160
DERKOU	15	3	11	0	0	50	0	0	50
FIFI	15	3	13	120	120	0	0	0	240
FIFI	15	3	13	50	0	0	0	0	50
FIFI	15	3	13	0	0	80	0	0	80
FIFI	15	3	13	0	0	60	0	0	60
TOT. DEL GRUPO	510	68	410	1750	1350	1190	1380	560	6230
MEDIAS DEL GRUPO	15.0	1.8	12.1	51.5	39.7	35.0	40.6	16.5	183.2
DESV. ESTANDARO	0.0	1.0	4.6	86.6	72.2	62.4	68.2	94.6	153.5

[illegible]

BAB BERRAT	15	1	9	0	0	0	0	0	70
BNI AHMEDRH	15	1	11	0	0	0	200	470	670
BNI AHMEDRH	15	1	11	0	0	100	250	250	500
BNIGRIR	15	1	13	350	350	0	0	0	100
BNIRZEN	15	1	15	100	150	0	0	0	700
BNIRZEN	15	1	15	0	0	120	0	0	150
BNISMIH	15	1	17	0	100	200	200	0	120
BNISMIH	15	1	17	0	0	0	100	0	500
ELMELHA	15	1	17	0	0	0	350	350	100
NTIOUA	15	1	21	0	0	0	250	450	700
TAMOROT	15	1	23	0	0	100	0	0	100
TAMOROT	15	1	23	100	300	0	0	0	400
BABTAZA	15	3	5	0	0	0	100	0	100
BABTAZA	15	3	5	50	50	100	100	300	600
DERDARA	15	3	9	0	100	0	0	0	100
DERKOUL	15	3	11	0	0	100	0	0	100
DERKOUL	15	3	11	0	100	0	0	0	100
DERKOUL	15	3	11	0	0	0	200	200	400
FIFI	15	3	13	0	100	0	0	0	100
FIFI	15	3	13	0	0	0	250	250	500

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDARO

315	37	275	600	1320	720	2000	2270	6910
15.0	1.8	13.1	28.6	62.9	34.3	95.2	108.1	329.0
8.0	1.0	5.2	78.0	97.5	57.6	113.3	162.6	242.7

FOUR - BAIN

BAB BERRAT	15	1	5	0	0	0	0	600	100
BNI AHMEDCH	15	1	9	0	0	300	0	0	300
BNIRZEN	15	1	15	0	0	0	0	200	200
ELMELHA	15	1	19	0	100	0	0	0	100
DERDARA	15	3	9	0	0	0	200	0	200
FIFI	15	3	13	0	0	0	0	200	200

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDARO

90	10	70	0	100	300	200	1000	1600
15.0	1.7	11.7	0.0	16.7	50.0	33.3	166.7	266.7
8.0	0.9	4.6	0.0	37.3	111.8	74.5	213.4	159.9

REPARATION

BAB BERRAT	15	1	5	250	200	0	0	0	530
BNI AHMEDCH	15	1	9	450	0	0	50	60	560
NTIOUA	15	1	21	0	0	0	350	0	350
BABTAZA	15	3	5	100	100	100	100	130	530
FIFI	15	3	13	0	0	0	0	400	400

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDARO

75	9	53	800	300	100	500	590	2370
15.0	1.8	10.6	160.0	76.0	20.0	100.0	118.0	474.0
8.0	1.0	6.0	171.5	109.1	40.0	130.4	148.9	83.1

RETEVEMENT DES ROUTES

BAB BERRAT	15	1	5	200	0	600	0	0	800
BNI AHMEDCH	15	1	9	0	0	0	350	350	700
NTIOUA	15	1	21	0	400	0	400	0	800
BABTAZA	15	3	5	200	200	200	200	0	800
DERDARA	15	3	9	0	0	0	400	0	400
DERKOUL	15	3	11	0	0	0	200	200	400
FIFI	15	3	13	350	130	220	200	200	1100

TOTAL DEL GRUPO
MEDIAS DEL GRUPO
DESV. ESTANDARO

185	15	73	750	730	1020	1750	750	5000
15.0	2.1	10.4	107.1	104.3	145.7	250.0	107.1	714.3
8.0	1.0	5.1	132.1	141.8	206.9	133.6	132.1	229.5

TOTAL GENERAL

1515	177	1243	5628	5700	7400	14070	14770	10000
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VARIABLE NOMBRE BREVE

NOMBRE LONG

VARIABLE	NOMBRE BREVE	NOMBRE LONG
V1	PROVINCE	
V2	CERCLE	
V3	COMMUNE	
V5	CREDITS-81	CREDITS EN MILLIERS-81
V6	CREDITS-82	CREDITS EN MILLIERS-82
V7	CREDITS-83	CREDITS EN MILLIERS-83
V8	CREDITS-84	CREDITS EN MILLIERS-84
V9	CREDITS-85	CREDITS EN MILLIERS-85
V10	TOT-81-85	TOTAL CREDITS EN MILLIERS 81-85

A data file for the North-West Economic Region was initiated by entering data for the 23 Communes of Chaouen Province concerning the Communal President's perceived needs for additional administrative and technical personnel for the 1982-86 or 1990 period, Communal budget figures for the years 1979-82 and the only available outside information at hand for Commune units - the 1961 and 1971 population figures.

See Appendix I.

The first three variables (or numeric fields) of the file are concerned with the M. of Plan's code for Provinces, Cercle and Commune. Variables 4 through 95 contain the information concerning the various types of personnel sought for the various years of the 1982- 1986-90 period and budget items are stored in variables 111 through 138 for each year 1979 through 1982. Population figures for 1961 and 1971 are located in Variable 101 - V104. At a latter stage in the analysis the total number of projects requested by each commune were aggregated and stored in V99 and V100.

As data analysis for this province proceeds, it is expected that other data for projects planned and current staffing patterns will be aggregated and scaled and a summary index for each commune will be added to this file. As other information at the commune level are located these pieces of information should be included, for example level of living measures, existence of basic infrastructure, presence of personnel trained in DFC centers, current population and other census information, a profile of local leaders, participation by leaders in DFC seminars, etc.

In the future it will also be possible to add information for other communes in the other Provinces of the North West region to this file.

Personnel Needs 1982-86-90

A preliminary analysis of personnel anticipated in both the administrative and technical domains can be made by reviewing the listing by commune and type of staff member sought. The ISIS package conveniently will provide a column total for all variables if requested so one can readily see that 13 persons are anticipated for local finances in 1982 (code 212 82) Variable 5 or 17 persons are needed in Chaouen for Personnel Administration in the 1982 year (Variable 10, Code 217 82).

The ISIS transformation program was used to create totals of administrative and technical personnel requested for each yearly period and a final total for all years under consideration. It is equally possible to concentrate on each type of personnel, for example, conducteurs de travaux or specialistes de jardins publics and present a total for each type of specialist for the entire period under analysis.

Table "11" presents a summary of the total requests of these 23 Chaouen communes for administrative personnel over the next 5 year periods. The largest number of requests is for 1980 with 85 persons anticipated and then varies from 30 to 60 with a grand total of 249 persons anticipated in 23 communes. What a fast growing employment market!

The next table, number "12" presents needs for technical staff. In comparison with administrators, a total of 152 seems almost modest. Again one notes the bi-modal pattern with the largest number of increases in personnel foreseen for 1982 and 1986-90.

TABLE 11

*** ISIS, VERSION 2.1 ***

NOM DU FICHIER -- REGION ECO 1

	V13 TOTADM82	V31 TOTADM83	V49 TOTADM84	V67 TOTADM85	V85 TOTADM86-9	V94 TOTADM82-90
1 BAB BERRAT	10	0	4	5	12	31
2 BNI AHMED CH	6	2	7	7	0	22
3 BNI AHMED RH	2	1	1	2	3	9
4 BNI GRIR	5	1	2	0	0	8
5 BNI RZEN	3	3	4	6	6	22
6 BNI SMIH	2	4	1	0	0	7
7 EL MELHA	1	1	4	5	5	16
8 MTIOUR	6	0	0	2	0	8
9 TAMOROT	4	3	0	0	3	10
10 BAB TAZA	5	0	4	0	4	13
11 DERDARA	5	2	7	2	15	31
12 DERKOUL	5	0	0	0	0	5
13 FIFI	3	0	0	0	2	5
14 TANKOUB	0	6	0	4	0	10
15 BNI BOUZRA	2	0	0	0	0	2
16 BNI ZIATE	5	2	0	0	3	10
17 SEBT ASSIFANE	1	0	0	0	0	1
18 TALEMBOTE CHEN	5	0	0	0	3	8
19 TALMBOTE JANOU	2	2	0	0	3	7
20 TLATA ASSIFANE	1	0	0	0	0	1
21 BRIKCHA	5	1	2	1	1	10
22 MOKRISSAT	1	2	0	0	0	3
23 ZOUMI	6	0	4	0	0	10

TOTAL	85	38	40	34	60	249
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VARIABLE	DESCRIPTION BREVE	DESCRIPTION LONGUE
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V13	TOTADM82	TOTAL BESOINS PERSONNEL ADMINISTRATIVE 1982
V31	TOTADM83	TOTAL BESOIN PERSONNEL ADMINISTRATIVE 1983
V49	TOTADM84	TOTAL BESOINS PERSONNEL ADMINISTRATIVE 1984
V67	TOTADM85	TOTAL BESOINS PERSONNEL ADMINISTRATIVE 1985
V85	TOTADM86-90	TOTAL BESOIN PERSONNEL ADMINISTRATIVE 1986-90
V94	TOTADM82-90	TOTAL BESOINS PERSONNEL ADMINISTRATIF 82-90

	V21 TOTTECH 82	V39 TOTTECH83	V57 TOTTECH84	V75 TOTTECH85	V93 TOTTECH86-90	V95 TOTTECH82-90
1 BAB BERRAT	3	1	0	7	5	16
2 BNI AHMED CH	1	4	4	0	0	9
3 BNI AHMED RH	0	0	0	0	2	2
4 BNI GRIR	2	3	0	2	2	9
5 BNI RZEN	0	6	0	0	7	13
6 BNI SMIH	0	1	2	1	0	4
7 EL MELHA	0	2	1	2	1	6
8 MTIOUR	4	0	1	0	0	5
9 TAMOROT	3	1	0	0	0	4
10 BAB TAZA	4	0	0	2	4	10
11 DEROARA	3	0	0	1	4	8
12 DERKOL	4	0	0	0	0	4
13 FIFI	0	0	0	1	2	3
14 TANKOUB	0	0	0	2	7	9
15 BNI BOUZRA	1	0	0	0	0	1
16 BNI ZIATE	4	1	0	2	4	11
17 SEBT ASSIFANE	1	0	0	1	0	2
18 TALEMBOTE CHAM	4	0	0	1	4	9
19 TALMBOTE JANOU	0	1	4	0	0	5
20 TLATA ASSIFANE	1	0	0	1	0	2
21 BRIKCHA	9	0	0	1	0	10
22 MOKRISSAT	0	4	0	0	0	4
23 ZOUNI	1	2	0	1	2	6
TOTAL	45	26	12	25	44	152

VARIABLE	DESCRIPTION BREVE	DESCRIPTION LONGUE
V21	TOTTECH 82	TOTAL BESOINS DOMAINE TECHNIQUE 82
V39	TOTTECH83	TOTAL BESOINS PERSONNEL TECHNIQUE 1983
V57	TOTTECH84	
V75	TOTTECH85	
V93	TOTTECH86-90	
V95	TOTTECH82-90	TOTAL BESOINS PERSONNEL TECHNIQUE 82-90

Personnel Needs, Communal Budget and Development Projects

Once a machine readable data file has been set up which comprises a number of indicators of several dimensions of interest (commune size & growth rate, communal budget for previous years, projects included in the 1981-85 Plan and anticipated personnel needs for the next 5 to 8 years) one can start on the most interesting part of the research and planning process - examination of patterns and interrelationships amongst the various indicators.

Table presents the Pearson r correlation matrix for eight indicators or variables. Values of correlation coefficients can fluctuate between 0 and 1.00. A value of zero would indicate that there is no association between the two indicators. A value of 1.00 would indicate that there is a perfectly predictable pattern of distribution, communes with a high value on one indicator would also have a high value on the other. A negative sign in the correlation would indicate a shift; communes with a low value on one indicator will have a high value on the second dimension.

The first question that one poses is whether there is a relationship between size of the commune and personnel needs. Next, is there a relationship between current budget of the commune and future personnel needs or between development projects being planned and personnel projections.

Size of Commune and personnel needs

One of the strongest relationships exhibited in the matrix is the correlation between the number of households in 1971 and

the total number of new administrative personnel requested by these 23 communes over the next 5 to 8 year period. This coefficient of $+ .55$ is quite strong and it is especially interesting to note that the number of household or familial units is a much improved predictor over the total population size of the commune in 1971 where the r coefficient is only $.12$. This result is intriguing and may indicate that the commune administration must relate to household units for many of the administrative tasks such as *etat civil* and licenses to build a house, etc. and is more concerned with family groups as clients than with just individuals. A quick calculation indicates that the communes in Chaouen are requesting an average of 5.6 new administrative staff members by 1990 for every 1000 households reported in the 1971 census.

A second indicator of communal growth was estimated on the basis of the available 1961 and 1971 population figures. The percent increase in population between 1961 and 1971 shows only a weak relationship of $.16$ with personnel projections for the 1980's. It is lamentable that there is such a lag in statistical indicators and as soon as the new census is available, these new population figures (and don't forget households) should be incorporated in all the commune level files. In addition, one must keep in mind that we can only speak about the Province of Chaouen and its 23 communes which provides a very small N for purposes of analysis.

Development Projects Planned and Personnel Needs

While the size of the commune in terms of the number of household units seems to be related to administrative needs, it would appear likely that the number of development projects planned by a commune

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would be related to the need for technical personnel. Indeed, a Pearson r coefficient of .26 indicates a fair correlation between the two. One notes that the needs for administrative personnel is more weakly associated at the .13 level.

Current budget and future personnel expectations

One of the more interesting relationships exist between current (1981) budget figures for the Prefectoralor Communal Council (V125) and future needs for administrative personnel. The correlation of $-.43$ seems to indicate that communes with the highest budget are expecting the smallest increase in new staff members during the next 5 - 8 years while the communes with the lowest 1981 budgets have the highest expectations for new administrative assistants. This seems to indicate that the majority of new positions will be opening in the less advantaged communes and they will be counting on central ministry subsidies to finance these additional positions. A similarly negative, but weaker association exists between 1981 budget and hope for technical staff in the future. Here the $r = -.15$. The 1981 figures for communal personnel expenditures are also negatively related to future needs of administrative staff members with an association of $r = -.28$. Basically, it appears that if financial means are currently adequate, communes will be staffed sufficiently for future needs without requiring large additions in terms of personnel for administration. While we are looking at the present budget, let's turn to the relationship between present expenditures and the number of projects being planned. Basically one might suspect that communes with more staff members could present and have accepted a larger number of development projects for the five year Plan.

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This contention is somewhat supported by the data from these 23 communes as the correlation between the 1981 budget for personnel expenditures and the total number of projects in the Plan is .40. There seems to be no association between the Prefectural or Communal Council budget and the # of projects, however.

Is the Communal budget related to the size of the community? While the budget for the communal council is positively related to population size in 1971 with a coefficient of .16 it has no association with either the number of household units in 1971 or with 1961-71 population growth. The 1981 budget for personnel expenditures is more strongly related to the size of the 1971 population with a coefficient of .31. Again this budget item appears to have no systematic association with household units or population increase up to the 1971 period.

The final question that one would perhaps like to pose concerning interrelationships illustrated in this table is whether the number of development projects being planned in a commune is related to the size of the potential clientel or beneficiaries. There is some support to indicate that indeed communes with larger populations tend to plan for a larger number of projects as the correlation with the number of household in 1971 is .29 and the relationship with total population in that year is even stronger, $r=.42$.

We see that it is possible to start discerning interesting patterns and relationships and to ask interesting questions with even a small data base. The interactive nature of the microcomputer system and the ease of use provided by user-

oriented software allows for relatively rapid response to questions pertinent to planning needs and to analysis of the data presently being collected by the DFC.

Once again it is suggested that files for communal personnel and projects first be set up for each province. The aggregated data for each commune then can be incorporated in a file covering all the communes in an economic region. Variations among provincial units can be examined immediately and at a future time when data are available for all regions national regional comparisons can be made.

If the DFC would like to continue building its data base for Chaoen and the other two northern provinces, it may be feasible for the DFC to arrange to work with the microcomputer equipment which has been made available to INSEA. In addition to contacting the Director M. Benyaclef, M. Amine Arafati, Tel. 709.15 or 709.23 poste: 342 may be of assistance to your continued efforts.

It would appear desirable to continue the file building/ data analysis process little by little without delaying until all data are available for all provinces. A strategy focusing on regional data analysis will allow modules or units to be produced which can be replicated for the other regions.

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TABLE 13

*** ISIS, VERSION 2.1 ***

NOM D'ETUDE — REGION ECO 1

MATRICE DES COEFFICIENTS DE CORRELATION

VARIABLE.	V102	V103	V104	V125	V126	V99	V94	V95
102 POP 71	.42 (23)	.37 (23)	.16 (23)	.31 (23)	.42 (23)	.12 (23)	.18 (23)	
103 MENAGES71		.10 (23)	-.02 (23)	.03 (23)	.29 (23)	.55 (23)	.21 (23)	
104 %CRO161-71			.04 (23)	.08 (23)	-.07 (23)	.16 (23)	.07 (23)	
125 BUD-P-C81				.55 (23)	-.05 (23)	-.43 (23)	-.15 (23)	
126 DEP-PER81					.40 (23)	-.28 (23)	-.04 (23)	
99 #PROJETS						.13 (23)	.26 (23)	
94 TOTAD82-90							.73 (23)	
95 TOTEC82-90								

	V102 POP 71	V103 MENAGES71	V104 %CRO161-71	V125 BUD-P-C81	V126 DEP-PER81	V99 #PROJETS	V94 TOTAD82-90	V95 TOTEC82-90
1 BAB BERRAT	16634	2748	34.87	0	0	9	31	16
2 BNI AHMED CH	18651	10651	28.69	20400	98992	8	22	9
3 BNI AHMED RH	8124	1508	19.77	20400	49709	9	9	2
4 BNI GRIR	4793	878	24.85	39900	45801	5	8	9
5 BNI RZEN	6734	1159	38.76	26600	95792	7	22	13
6 BNI SMIH	5229	984	27.79	16209	45371	7	7	4
7 EL MELHA	6967	1385	18.59	16000	47580	5	16	6
8 MTIOUA	12518	2196	31.24	37600	248203	8	8	5
9 TAMOROT	7374	1357	26.38	20200	99116	5	10	4
10 BAB TAZA	8962	1697	12.74	26400	120299	10	13	10
11 DEROARA	8825	8825	15.59	20400	46306	10	31	8
12 DERKOU	12229	2232	9.52	26400	76405	7	5	4
13 FIFI	9245	1866	22.11	20400	59439	10	5	3
14 TANKOUB	6548	1345	9.88	23200	66726	7	10	9
15 BNI BOUZRA	6544	1178	38.62	21000	138565	7	2	1
16 BNI ZIATE	12359	2321	13.39	24900	240891	14	10	11
17 SEBT ASSIFANE	9314	1507	9.19	24400	80682	8	1	2
18 TALEMBOTE CHAM	4327	643	4.82	20200	68982	9	8	9
19 TALMBOTE JANOU	5854	994	4.39	20200	106289	7	7	5
20 TLATA ASSIFANE	6495	1128	25.56	21800	57936	8	1	2
21 BRIKCHA	19025	3820	23.85	34100	131504	9	10	10
22 MOKRISSAT	15144	3113	21.85	33100	124689	8	3	4
23 ZOUMI	28456	5572	32.43	20800	135599	10	10	6

TOTAL	232403	59187	462.08	542600	2168876	187	249	152
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VARIABLE	DESCRIPTION BREVE	DESCRIPTION LONGUE
V102	POP 71	POPULATION 1971
V103	MENAGES71	# DE MENAGES 1971
V104	%CRO161-71	TAUX DE CROISSANCE POPULATION 1961-1971
V125	BUD-P-C81	CONSEIL PREFECTORAL OU COMMUNAL 81
V126	DEP-PER81	DEPENSES DU PERSONNEL 81
V99	#PROJETS	TOTAL PROJETS PREVUS 1981-85
V94	TOTAD82-90	TOTAL BESOINS PERSONNEL ADMINISTRATIF 82-90
V95	TOTEC82-90	TOTAL BESOINS PERSONNEL TECHNIQUE 82-90

APPENDIX I

NORTH-WEST ECONOMIC REGION ISIS DATA FILE

BESOINS EN CADRES DANS LES ANNEES A. VENIR

21 - Domaine Administratif	
211. Organisation Administrative et Judiciaire	
212- Finances locales et Gestion Budgetaire Locale	
213- Affaires Publicques	
214- Planification et techniques referentielles des projects de developpement	
215- L'habitat et l'amenagement du territoire	
216- Documentation, classement et conservation des donnees locales commerciales	
217- Gestion des Affaires du Personnel	
218 - Etat Civil	
219 - Redaction Administrative	
22- Domaine Technique	Total Administratif
221 - Plans graphiques	
222 - Gestionnaires des Travaux Publics	
223 - Specialistes des Jardins Publics	
224- Techniciens Sanitaires prefectoraus et communaux	
225- Techniciens de l'Amenagement et l'organisation prefectorale	
226 - Techniciens pour la realisation des projets de developpement	
227 - Domaines particuliers + (Domaines qui ne sont pas cites sur le Tableau)	

Total technique

Numero de la Variable

1979	1980	1981	1982	1983	1984	1985	1986 1990	Obser vations	Infor mations
			4	22	40	58	76		
			5	23	41	59	77		
			6	24	42	60	78		
			7	25	43	61	79		
			8	26	44	62	80		
			9	27	45	63	81		
			10	28	46	64	82		
			11	29	47	65	83		
			12	30	48	66	84		
			13	31	49	67	85		
			14	32	50	68	86		
			15	33	51	69	87		
			16	34	52	70	88		
			17	35	53	71	89		
			18	36	54	72	90		
			19	37	55	73	91		
			20	38	56	74	92		
			21	39	57	75	93		

	V1 PROVINCE	V2 CERCLE	V3 COMMUNE	V4 211 82	V5 212 82	V6 213 82	V7 214 82	V8 215 82	V9 216 82	V10 217 82
1 BAB BERGAT	15	1	5	2	1	0	1	1	0	1
2 BNI AHMED CH	15	1	9	1	2	0	0	0	0	1
3 BNI AHMED RH	15	1	11	2	0	0	0	0	0	0
4 BNI GRIR	15	1	13	1	0	1	0	0	1	2
5 BNI RZEN	15	1	15	0	1	0	0	0	0	0
6 BNI SMIH	15	1	17	0	0	0	0	0	0	1
7 EL MELHA	15	1	19	0	0	0	0	0	0	0
8 NTIOUA	15	1	21	1	1	0	0	0	0	1
9 TAMOROT	15	1	23	0	0	1	0	1	0	1
10 BAB TAZA	15	3	5	1	1	0	0	0	0	1
11 DEROARA	15	3	9	1	1	0	0	0	0	1
12 DERKOUL	15	3	11	1	1	0	0	0	0	1
13 FIFI	15	3	13	0	1	0	0	0	0	1
14 TANKOUB	15	3	15	0	0	0	0	0	0	0
15 BNI BOUZRA	15	5	5	0	0	0	0	0	0	1
16 BNI ZIATE	15	5	9	0	1	0	0	0	0	1
17 SEBT ASSIFANE	15	5	11	0	0	0	0	0	0	0
18 TALEMBOTE CHAM	15	5	15	0	0	1	0	0	0	1
19 TALMBOTE JANOU	15	5	21	0	1	0	0	0	0	1
20 TLATA ASSIFANE	15	5	23	0	0	0	0	0	0	0
21 BRIKCHA	15	7	5	1	1	0	0	0	0	1
22 MOKRISSAT	15	7	9	1	0	0	0	0	0	0
23 ZOUNI	15	7	11	0	1	0	2	0	0	1
TOTAL	345	75	295	12	13	3	3	2	1	17

VARIABLE DESCRIPTION BREVE

DESCRIPTION LONGUE

V1	PROVINCE	CODE PROVINCE
V2	CERCLE	CODE CERCLE
V3	COMMUNE	CODE COMMUNE
V4	211 82	BESOINS CADRES ADHII 82
V5	212 82	FINANCES LOC 82
V6	213 82	MARCHES PUBLICS
V7	214 82	PLANIF CHOIX PROJETS
V8	215 82	URBANISME AMEN TERRITOIRE
V9	216 82	DOC BANQUE DE DONNEES
V10	217 82	GESTION DU PERSONNEL

	V11 218 82	V12 219 82	V13 TOTALM82	V14 221 82	V15 222 82	V16 223 82	V17 224 82	V18 225 82	V19 226 82	V20 AUTRES 82
1 BAB BERRAT	3	1	18	0	0	0	1	1	1	0
2 BNI AHMED CH	1	1	6	0	0	0	0	1	0	0
3 BNI AHMED RH	0	0	2	0	0	0	0	0	0	0
4 BNI GRIR	0	0	5	0	0	0	0	2	0	0
5 BNI RZEN	1	1	3	0	0	0	0	0	0	0
6 BNI SMIH	0	1	2	0	0	0	0	0	0	0
7 EL MELHA	1	0	1	0	0	0	0	0	0	0
8 MTIGRA	2	1	6	1	1	1	1	0	0	0
9 TAMOROT	0	1	4	0	0	1	1	0	1	0
10 BAB TAZA	1	1	5	0	1	1	0	0	0	2
11 DERDARA	1	1	5	0	1	1	0	0	1	0
12 DERKOL	1	1	5	0	1	1	0	0	0	2
13 FIFI	0	1	3	0	0	0	0	0	0	0
14 TANKOUB	0	0	0	0	0	0	0	0	0	0
15 BNI BOUZRA	0	1	2	0	1	0	0	0	0	0
16 BNI ZIATE	2	1	5	0	1	0	1	0	0	2
17 SEBT ASSIFANE	0	1	1	0	1	0	0	0	0	0
18 TALEMBOTE CHAM	2	1	5	0	0	1	1	0	0	2
19 TALEMBOTE JANDU	0	0	2	0	0	0	0	0	0	0
20 TLATA ASSIFANE	0	1	1	0	1	0	1	1	0	0
21 BRIKCHA	1	1	5	1	1	0	0	1	1	5
22 MOKRISSAT	0	0	1	0	0	0	0	0	0	0
23 ZOUMI	2	0	6	0	1	0	0	0	0	0

TOTAL	18	16	85	2	10	6	6	6	4	13
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VARIABLE DESCRIPTION BREVE

DESCRIPTION LONGUE

V11	218 82	ETAT CIVIL
V12	219 82	REDACTION ADMI
V13	TOTALM82	TOTAL BESOINS PERSONNEL ADMINISTRATIVE 1982
V14	221 82	PLAN GRAPHIQUE
V15	222 82	CONDUCTEURS TRAVAUX
V16	223 82	SPECIALISTES JARDINS PUBLICS
V17	224 82	TECH SANITAIRES PREF COMMUNAUX
V18	225 82	TECH DE AMENAGEMENT ET ORGANISATION PREF
V19	226 82	TECH POUR REALISATION PROJETS DEVELOPPEMENT
V20	AUTRES 82	DOMAINES NON CITES

	V21 TOTTECH 82	V22 211 83	V23 212 83	V24 213 83	V25 214 83	V26 215 83	V27 216 83	V28 217 83	V29 218 83	V30 219 83
1 BAB BERRAT	3	0	0	0	0	0	0	0	0	0
2 BNI AHMED CH	1	0	2	0	0	0	0	0	0	0
3 BNI AHMED RH	0	0	0	0	0	0	0	0	0	1
4 BNI GRIR	2	0	0	0	0	0	0	1	0	0
5 BNI RZEN	0	0	0	1	0	0	1	0	1	0
6 BNI SMH	0	1	0	0	1	1	1	0	0	0
7 EL MELHA	0	0	0	1	0	0	0	0	0	0
8 MTIOUA	4	0	0	0	0	0	0	0	0	0
9 TANOROT	3	0	1	0	1	0	0	0	1	0
10 BAB TAZA	4	0	0	0	0	0	0	0	0	0
11 DERDARA	3	1	1	0	0	0	0	0	0	0
12 DERKOUL	4	0	0	0	0	0	0	0	0	0
13 FIFI	0	0	0	0	0	0	0	0	0	0
14 TANKOUB	0	1	1	0	0	0	0	1	2	1
15 BNI BOUZRA	1	0	0	0	0	0	0	0	0	0
16 BNI ZIATE	4	2	0	0	0	0	0	0	0	0
17 SEBT ASSIFANE	1	0	0	0	0	0	0	0	0	0
18 TALEMBOTE CHAH	4	0	0	0	0	0	0	0	0	0
19 TALEMBOTE JANOU	0	0	2	0	0	0	0	0	0	0
20 TLATA ASSIFANE	1	0	0	0	0	0	0	0	0	0
21 BRIKCHA	9	0	0	0	0	0	1	0	0	0
22 MOKRISSAT	0	0	0	0	0	0	0	0	0	0
23 ZOUNI	1	0	0	0	0	0	0	0	0	2
TOTAL	45	5	7	2	2	1	3	2	4	4

VARIABLE DESCRIPTION BREVE DESCRIPTION LONGUE

V21	TOTTECH 82	TOTAL BESOINS DOMAINE TECHNIQUE 82
V22	211 83	BESOINS PERSONNEL ADMINISTRATIVE 1983
V23	212 83	BESOIN FINANCE LOCALES GESTION BUDGETAIRE 1983
V24	213 83	BESOIN AFFAIRES PUBLICQUES 1983
V25	214 83	PLANIFICATION ET TECHNIQUES DES PROJETS 1983
V26	215 83	HABITAT ET AMENAGEMENT DU TERRITOIRE 1983
V27	216 83	DOCUMENTATION DONNEES LOCALES COMMERCIALES 1983
V28	217 83	GESTION DES AFFAIRES DU PERSONNEL 1983
V29	218 83	ETAT CIVIL 1983
V30	219 83	REDACTION ADMINISTRATIVE 1983

	V31 TOTADM83	V32 221 83	V33 222 83	V34 223 83	V35 224 83	V36 225 83	V37 226 83	V38 AUTRES TEC	V39 TOTTECH83	V40 211 84
1 BAB BERRAT	0	0	0	1	0	0	0	0	1	0
2 BNI AHMED CH	2	0	1	0	0	0	0	0	4	4
3 BNI AHMED RH	1	0	0	0	0	1	0	2	0	0
4 BNI GRIR	1	0	3	0	0	0	0	0	3	0
5 BNI RZEN	3	1	1	1	1	1	1	0	6	1
6 BNI SMIH	4	0	1	0	0	0	0	0	1	0
7 EL MELHA	1	1	0	0	0	0	1	0	2	0
8 MTIOUR	0	0	0	0	0	0	0	0	0	0
9 TAMOROT	3	0	1	0	0	0	0	0	0	0
10 BAB TAZA	0	0	0	0	0	0	0	0	1	0
11 DERDARA	2	0	0	0	0	0	0	0	0	1
12 DERKOL	0	0	0	0	0	0	0	0	0	3
13 FIFI	0	0	0	0	0	0	0	0	0	0
14 TANKOUB	6	0	0	0	0	0	0	0	0	0
15 BNI BOUZRA	0	0	0	0	0	0	0	0	0	0
16 BNI ZIATE	2	0	0	0	0	0	0	0	0	0
17 SEBT ASSIFANE	0	0	0	0	1	0	0	0	1	0
18 TALEMBOTE CHAH	0	0	0	0	0	0	0	0	0	0
19 TALEMBOTE JANOU	2	0	0	0	0	0	0	0	0	0
20 TLATA ASSIFANE	0	0	0	0	1	0	0	0	1	0
21 BRIKCHA	1	0	0	0	0	0	0	0	0	0
22 MOKRISSAT	2	0	2	1	0	0	0	0	0	0
23 ZOUNI	0	1	0	0	0	1	0	0	4	0
TOTAL	30	3	9	3	3	3	3	2	26	9

VARIABLE DESCRIPTION BREVE

DESCRIPTION LONGUE

V31	TOTADM83	TOTAL BESOIN PERSONNEL ADMINISTRATIVE 1983
V32	221 83	PLANS GRAPHIQUES 83
V33	222 83	CONDUCTEURS TRAVAUX 1983
V34	223 83	JARDINS PUBLICS 1983
V35	224 83	TECHNICIENS SANITAIRES 1983
V36	225 83	TECHNICIENS AMENAGEMENT ET ORGANISATION 1983
V37	226 83	TECHNICIENS REALISATION PROJETS 1983
V38	AUTRES TECH 83	BESOINS DES AUTRES TECHNICIENS 1983
V39	TOTTECH83	TOTAL BESOINS PERSONNEL TECHNIQUE 1983
V40	211 84	ORG. ADMINISTRATIVE 1984

	V41 212 84	V42 213 84	V43 214 84	V44 215 84	V45 216 84	V46 217 84	V47 218 84	V48 219 84	V49 TOTADM184	V50 221 84
1 BAB BERRAT	0	1	0	0	0	1	1	1	4	0
2 BNI AHMED CH	1	1	0	0	0	0	0	0	7	1
3 BNI AHMED RH	0	0	0	0	0	1	0	0	1	0
4 BNI GRIR	0	0	0	0	0	0	1	1	2	0
5 BNI RZEN	0	0	1	1	0	1	0	0	4	0
6 BNI SHIH	0	1	0	0	0	0	0	0	1	0
7 EL MELHA	0	0	0	4	0	0	0	0	4	0
8 MTIOUR	0	0	0	0	0	0	0	0	4	0
9 TANDROT	0	0	0	0	0	0	0	0	0	1
10 BAB TAZA	1	0	0	0	0	0	0	0	0	0
11 DERDARA	4	0	0	0	0	0	1	1	4	0
12 DERKOUL	0	0	0	0	0	0	0	0	7	0
13 FIFI	0	0	0	0	0	0	0	0	0	0
14 TANKOUB	0	0	0	0	0	0	0	0	0	-0
15 BNI BOUZRA	0	0	0	0	0	0	0	0	0	0
16 BNI ZIATE	0	0	0	0	0	0	0	0	0	0
17 SEBT ASSIFANE	0	0	0	0	0	0	0	0	0	0
18 TALEMBOTE CHAM	0	0	0	0	0	0	0	0	0	0
19 TALEMBOTE JANOU	0	0	0	0	0	0	0	0	0	0
20 TLATA ASSIFANE	0	0	0	0	0	0	0	0	0	0
21 BRIKCHA	0	1	0	0	0	0	0	0	0	0
22 MOKRISSAT	0	0	0	0	0	0	1	0	0	0
23 ZOURI	0	0	2	0	0	0	0	0	2	0
								2	4	0

TOTAL

6

4

3

5

0

3

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6

40

2

VARIABLE DESCRIPTION BREVE

DESCRIPTION LONGUE

V41	212 84
V42	213 84
V43	214 84
V44	215 84
V45	216 84
V46	217 84
V47	218 84
V48	219 84
V49	TOTADM184
V50	221 84

TOTAL BESOINS PERSONNEL ADMINISTRATIVE 1984

	V51 222 84	V52 223 84	V53 224 84	V54 225 84	V55 226 84	V56 227 84	V57 TOTTECH84	V58 211 85	V59 212 85	V60 213 85
1 BAB BERRAT	0	0	0	0	0	0	0	1	1	0
2 BNI AHMED CH	0	0	0	0	1	2	4	4	2	0
3 BNI AHMED RH	0	0	0	0	0	0	0	0	1	0
4 BNI GRIR	0	0	0	0	0	0	0	0	0	0
5 BNI RZEN	0	0	0	0	0	0	0	0	0	0
6 BNI SMIH	1	0	0	0	0	0	0	1	1	0
7 EL MELHA	0	0	1	0	0	1	2	0	0	0
8 MTIOUR	0	0	0	0	0	0	1	1	0	0
9 TAMOROT	0	0	0	0	0	0	1	0	0	1
10 BAB TAZA	0	0	0	0	0	0	0	0	0	0
11 DERRARA	0	0	0	0	0	0	0	0	0	0
12 DERKOU	0	0	0	0	0	0	0	1	1	0
13 FIFT	0	0	0	0	0	0	0	0	0	0
14 TANKOUB	0	0	0	0	0	0	0	0	0	0
15 BNI BOUZRA	0	0	0	0	0	0	0	0	0	1
16 BNI ZIATE	0	0	0	0	0	0	0	0	0	0
17 SEBT ASSIFANE	0	0	0	0	0	0	0	0	0	0
18 TALEMBOTE CHAM	0	0	0	0	0	0	0	0	0	0
19 TALEMBOTE JANOU	0	2	1	1	0	0	0	0	0	0
20 TLATA ASSIFANE	0	0	0	0	0	0	4	0	0	0
21 BRIKCHA	0	0	0	0	0	0	0	0	0	0
22 MOKRISSAT	0	0	0	0	0	0	0	0	0	0
23 ZOUNI	0	0	0	0	0	0	0	0	0	0

TOTAL	1	2	2	1	1	3	12	8	6	2
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VARIABLE DESCRIPTION BREVE DESCRIPTION LONGUE

V51 222 84
V52 223 84
V53 224 84
V54 225 84
V55 226 84
V56 227 84
V57 TOTTECH84
V58 211 85
V59 212 85
V60 213 85

0

	V61 214 85	V62 215 85	V63 216 85	V64 217 85	V65 218 85	V66 219 85	V67 TOTALADM85	V68 221 85	V69 222 85	V70 223 85
1 BAB BERRAT	1	1	1	0	0	0	5	0	1	1
2 BNI AHMED CH	0	0	0	1	0	0	7	0	0	0
3 BNI AHMED RH	0	0	0	0	0	1	2	0	0	0
4 BNI GRIR	0	0	0	0	0	0	0	0	1	0
5 BNI RZEN	1	1	0	1	1	0	6	0	0	0
6 BNI SHIH	0	0	0	0	0	0	0	0	0	0
7 EL MELHA	0	0	1	1	1	1	5	1	0	1
8 MTIOUR	0	0	0	1	0	0	2	0	0	0
9 TAMOROT	0	0	0	0	0	0	0	0	0	0
10 BAB TAZA	0	0	0	0	0	0	0	0	0	0
11 DARDARA	0	0	0	0	0	0	0	0	1	1
12 DERKOUL	0	0	0	0	0	0	2	0	0	0
13 FIFI	0	0	0	0	0	0	0	0	0	0
14 TANKOUB	1	1	1	0	0	0	0	0	0	0
15 BNI BOUZRA	0	0	0	0	0	0	4	0	1	1
16 BNI ZIATE	0	0	0	0	0	0	0	0	0	0
17 SEBT ASSIFANE	0	0	0	0	0	0	0	0	0	1
18 TALEMBOTE CHAH	0	0	0	0	0	0	0	1	0	0
19 TALEMBOTE JANOU	0	0	0	0	0	0	0	0	0	0
20 TLATA ASSIFANE	0	0	0	0	0	0	0	0	0	0
21 BRIKCHA	1	0	0	0	0	0	0	1	0	0
22 MOKRISSAT	0	0	0	0	0	0	1	0	0	0
23 ZOUNI	0	0	0	0	0	0	0	0	0	0

TOTAL

4 3 3 4 2 2 34 3 4 6

VARIABLE DESCRIPTION BREVE DESCRIPTION LONGUE

V61 214 85
V62 215 85
V63 216 85
V64 217 85
V65 218 85
V66 219 85
V67 TOTALADM85
V68 221 85
V69 222 85
V70 223 85

TOTAL BESOINS PERSONNEL ADMINISTRATIVE 1985

	V71 224 85	V72 225 85	V73 226 85	V74 227 85	V75 TOTTECH85	V76 211 86-90	V77 212 86-90	V78 213 86-90	V79 214 86-90	V80 215 86-90
1 BAB BERRAT	1	2	1	1	7	2	1	1	1	1
2 BNI AHMED CH	0	0	0	0	0	0	0	0	0	0
3 BNI AHMED RH	0	0	0	0	0	2	1	0	0	0
4 BNI GRIR	1	0	0	0	2	0	0	0	0	0
5 BNI RZEN	0	0	0	0	0	1	1	0	1	0
6 BNI SMIH	1	0	0	0	1	0	0	0	0	0
7 EL MELHA	0	0	0	0	2	0	0	1	0	4
8 HTIOUA	0	0	0	0	0	0	0	0	0	0
9 TAMOROT	0	0	0	0	0	1	0	0	0	0
10 BAB TAZA	0	0	0	0	2	1	1	0	0	0
11 DERDARA	0	0	1	0	1	6	6	0	0	0
12 DERKOUL	0	0	0	0	0	0	0	0	0	0
13 FIFI	0	0	1	0	1	0	0	0	1	0
14 TANKOUB	0	0	0	0	2	0	0	0	0	0
15 BNI BOUZRA	0	0	0	0	0	0	0	0	0	0
16 BNI ZIATE	0	1	0	0	2	0	0	0	0	0
17 SEBT ASSIFANE	0	0	0	0	1	0	0	0	0	0
18 TALEMBOU CHAM	1	0	0	0	1	0	0	0	0	0
19 TALEMBOU JANOU	0	0	0	0	0	0	0	0	0	0
20 TLATA ASSIFANE	0	0	0	0	1	0	0	0	0	0
21 BRIKCHA	1	0	0	0	1	0	0	0	0	0
22 MOKRISSAT	0	0	0	0	1	1	0	0	0	0
23 ZOUMI	0	0	0	0	1	0	0	0	0	0
TOTAL	5	3	3	1	25	14	10	2	3	5

VARIABLE DESCRIPTION BREVE DESCRIPTION LONGUE

V71 224 85
V72 225 85
V73 226 85
V74 227 85
V75 TOTTECH85
V76 211 86-90
V77 212 86-90
V78 213 86-90
V79 214 86-90
V80 215 86-90

0

	V81 216 86-90	V82 217 86-90	V83 218 86-90	V84 219 86-90	V85 TOTALADM86-9	V86 221 86-90	V87 222 86-90	V88 223 86-90	V89 224 86-90	V90 225 86-90
1 BAB BERRAT	1	1	3	1	12	1	1	1	2	0
2 BNI AHMED CH	0	0	0	0	0	0	0	0	0	0
3 BNI AHMED RH	0	0	0	0	3	0	0	1	1	0
4 BNI GRIR	0	0	0	0	0	0	1	0	0	0
5 BNI RZEN	1	0	1	1	6	1	1	1	1	1
6 BNI SMIH	0	0	0	0	0	0	0	0	0	0
7 EL MELHA	0	0	0	0	5	0	0	0	0	1
8 MTIOUA	0	0	0	0	0	0	0	0	0	0
9 TANDROT	0	0	1	1	3	0	0	0	0	0
10 BAB TAZA	0	0	1	1	4	0	1	1	0	0
11 DEROARA	0	1	1	1	15	0	2	1	1	0
12 DERKOUL	0	0	0	0	0	0	0	0	0	0
13 FIFI	0	0	1	0	2	1	1	0	0	0
14 TANKOUB	0	0	0	0	0	1	0	0	2	2
15 BNI BOUZRA	0	0	0	0	0	0	0	0	0	0
16 BNI ZIATE	0	3	0	0	3	0	2	0	1	0
17 SEBT ASSIFANE	0	0	0	0	0	0	0	0	0	0
18 TALEMBOTE CHAM	0	0	3	0	3	0	0	2	1	1
19 TALEMBOTE JANOU	0	3	0	0	3	0	0	0	0	0
20 TLATA ASSIFANE	0	0	0	0	0	0	0	0	0	0
21 BRIKCHA	0	0	0	0	1	0	0	0	0	0
22 MOKRISSAT	0	0	0	0	0	0	0	0	0	0
23 ZOUNI	0	0	0	0	0	0	0	0	2	0

TOTAL

2

8

11

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VARIABLE DESCRIPTION BREVE

DESCRIPTION LONGUE

V81 216 86-90
V82 217 86-90
V83 218 86-90
V84 219 86-90
V85 TOTALADM86-90
V86 221 86-90
V87 222 86-90
V88 223 86-90
V89 224 86-90
V90 225 86-90

TOTAL BESOIN PERSONNEL ADMINISTRATIVE 1986-90

	V91 226 86-90	V92 227 86-90	V93 TOTTECH86-90	V94 TOTAD82-90	V95 TOTECH82-90	V96 BSTECH82-90	V97	V98	V99 #PROJETS PROJ81-85C	V100 PROJ81-85C
1 BAB BERRAT	0	0	5	31	16	4	0	0	9	3
2 BNI AHMED CH	0	0	0	22	9	3	0	0	8	2
3 BNI AHMED RH	0	0	2	9	2	1	0	0	9	3
4 BNI GRIR	0	1	2	8	9	3	0	0	5	1
5 BNI RZEN	1	1	7	22	13	4	0	0	7	2
6 BNI SMIH	0	0	0	7	4	2	0	0	7	2
7 EL MELHA	0	0	1	16	6	2	0	0	5	1
8 HTIOUA	0	0	0	8	5	2	0	0	8	2
9 TAMOROT	0	0	0	10	4	2	0	0	5	1
10 BAB TAZA	0	2	4	13	10	4	0	0	10	4
11 DERDARA	0	0	4	31	8	3	0	0	10	4
12 DERKOU	0	0	0	5	4	2	0	0	7	2
13 FIFI	0	0	2	5	3	1	0	0	10	4
14 TANKOUB	2	0	7	10	9	3	0	0	7	2
15 BNI BOUZRA	0	0	0	2	1	1	0	0	7	2
16 BNI ZIATE	1	0	4	10	11	4	0	0	14	4
17 SEBT ASSIFANE	0	0	0	1	2	1	0	0	8	2
18 TALEMBOTE CHAM	0	0	4	8	9	3	0	0	9	3
19 TALMBOTE JANOU	0	0	0	7	5	2	0	0	7	2
20 TLATA ASSIFANE	0	0	0	1	2	1	0	0	8	2
21 BRIKCHA	0	0	0	10	10	4	0	0	9	3
22 MOKRISSAT	0	0	0	3	4	2	0	0	8	2
23 ZOUNI	0	0	2	10	6	2	0	0	10	4
TOTAL	4	4	44	249	152	56	0	0	187	57

VARIABLE DESCRIPTION BREVE

DESCRIPTION LONGUE

V91	226 86-90	
V92	227 86-90	2
V93	TOTTECH86-90	
V94	TOTAD82-90	TOTAL BESOINS PERSONNEL ADMINISTRATIF 82-90
V95	TOTECH82-90	TOTAL BESOINS PERSONNEL TECHNIQUE 82-90
V96	BSTECH82-90	BESOINS DE PERSONNEL TECHNIQUE 1982-90 1-3 4-6 7-9 10+
V97		
V98		
V99	#PROJETS	TOTAL PROJETS PREVUS 1981-85
V100	PROJ81-85C	# PROJETS PREVUS 1981-85 CATEGORIES=1-6 7-8 9 10+

	V101 POP 1961.	V102 POP 71	V103 MENAGES71	V104 %CRO161-71	V105 0	V106	V107	V108	V109	V110
1 BAB BERRAT	12487	16634	2748	34.87	1.128	0	0	0	0	0
2 BNI AHMED CH	8825	10651	10651	20.69	.207	0	0	0	0	0
3 BNI AHMED RH	6783	8124	1508	19.77	.597	0	0	0	0	0
4 BNI GRIR	3839	4793	878	24.85	.911	0	0	0	0	0
5 BNI RZEN	5150	6734	1159	30.76	1.898	0	0	0	0	0
6 BNI SMIH	4892	5229	984	27.79	.711	0	0	0	0	0
7 EL MELHA	6380	6967	1385	10.59	1.155	0	0	0	0	0
8 HTIOUR	9532	12510	2196	31.24	.364	0	0	0	0	0
9 TAMORT	5835	7374	1357	26.38	.737	0	0	0	0	0
10 BAB TAZA	7949	8962	1697	12.74	.766	0	0	0	0	0
11 DERRARA	7635	8825	8825	15.59	.351	0	0	0	0	0
12 DERKOU	11221	12289	2232	9.52	.224	0	0	0	0	0
13 FIFI	7571	9245	1866	22.11	.268	0	0	0	0	0
14 TANKOUB	5959	6548	1345	9.88	.743	0	0	0	0	0
15 BNI BOUZRA	5010	6544	1178	30.62	.17	0	0	0	0	0
16 BNI ZIATE	10900	12359	2321	13.39	.431	0	0	0	0	0
17 SEBT ASSIFANE	8530	9314	1507	9.19	.066	6	0	0	0	0
18 TALEMBOTE CHAM	4128	4327	643	4.82	1.244	0	0	0	0	0
19 TALMBOTE JANOU	5680	5854	994	4.39	.704	0	0	0	0	0
20 TLATA ASSIFANE	5173	6495	1128	25.56	.0889	0	0	0	0	0
21 BRIKCHA	15361	19025	3820	23.85	.262	0	0	0	0	0
22 MOKRISSAT	12428	15144	3113	21.85	.096	0	0	0	0	0
23 ZOUNI	21487	28456	5572	32.43	.179	0	0	0	0	0
TOTAL	191723	232483	59107	462.00	13.3009	0	0	0	0	0

VARIABLE DESCRIPTION BREVE DESCRIPTION LONGUE

V101	POP 1961	POPULATION 1961 *
V102	POP 71	POPULATION 1971
V103	MENAGES71	# DE MENAGES 1971 *
V104	%CRO161-71	TAUX DE CROISSANCE POPULATION 1961-1971
V105		Besoins du personnel Administratif 1982-90
V106		per 100 menages en 1971.
V107		
V108		
V109		
V110		

Source for Variables 101, 102 and 103:

Royaume du Maroc, Secretariat d'Etat au Plan au Developpement Regional et a la Formation des Cadres, Direction des Statistiques
POPULATION LEGALE DU MAROC d'apres le recensement general de la population et de l'habitat, 1971.

3- Donnees Financiers

31- Budget de Fonctionnement et repartition

311 Conseil prefectoral ou communal

312- Depenses du Personnel

313- Equipement et defenses des differents services

32- Budget d'equipement et repartition

321- Credits Budgetaires

322- Immeubles

323- Grandes reparations et travaux d'elaboration

326 Meubles

Numero de la variable

1979	1980	1981	1982
111	118	125	132
112	119	126	133
113	120	127	134
114	121	128	135
115	122	129	136
116	123	130	137
117	124	131	138

	V111	V112	V113	V114	V115	V116	V117	V118	V119	V120
	BUD-P-C-79	DEP-PER-79	EQUI-SER79	CRE-BUD79	IMB-79	G-REP-TR79	MEUBLES-79	BUD-PC-80	DEP-PER80	EQUI-SER80
1 BAB BERRAT	27600	14855968	17328041	0	0	0	0	27600	171611	149870
2 BNI AHMED CH	20400	53128	3600	73949	0	0	0	20400	64408	4600
3 BNI AHMED RH	20400	39139	0	0	0	0	0	20400	44016	0
4 BNI GRIR	20700	31882	34670	0	0	0	0	20700	31186	23302
5 BNI RZEN	22500	39777	42645	0	0	0	0	22500	53475	28794
6 BNI SHIH	16200	35284	30565	77748	0	0	0	16200	41629	17993
7 EL MELHA	16200	38903	5270	87251	0	9330	0	16000	56465	4770
8 MTIOUA	27600	148559	173280	0	0	0	0	27600	171611	149870
9 TAMOROT	19200	70567	21858	0	0	117061	39500	19200	82194	23650
10 BAB TAZA	26400	67665	63842	0	22918	55125	26400	100993	76810	0
11 DERRARA	20400	24959	5700	74030	0	0	0	20400	38510	5700
12 DERKOUL	26400	54173	56445	0	25004	100125	0	26400	64555	61445
13 FIFI	20400	34300	0	104140	0	0	0	20400	49441	92010
14 TANKOUB	23200	38412	11801	0	0	0	0	23200	45263	11801
15 BNI BOUZRA	20700	99631	31310	162460	0	0	0	20700	113704	29000
16 BNI ZIATE	24900	154591	0	223473	0	0	0	24900	183826	0
17 SEBT ASSIFANE	24400	62068	0	87049	0	0	0	24400	73906	0
18 TALEMBOTE CHAM	20200	40735	0	107096	0	0	0	20200	57811	0
19 TALMBOTE JANOU	20200	84270	0	166840	0	0	0	20200	78330	0
20 TLATA ASSIFANE	19000	43689	0	83664	0	0	0	19000	51131	0
21 BRIKCHA	20200	89224	0	0	1600	53356	0	20200	103396	0
22 MOKRISSAT	26600	89654	88356	97689	32100	0	0	26600	102370	80107
23 ZOUMI	20000	74691	0	32057	0	0	0	20000	100320	0
TOTAL	521400	16271303	17897383	1379046	81630	342997	65900	595793	1856048	682912

VARIABLE	DESCRIPTION BREVE	DESCRIPTION LONGUE
V111	BUD-P-C-79	CONSEIL PREFECTORAL COMMUNAL 79
V112	DEP-PER-79	DEPENSES DU PERSONNEL 79
V113	EQUI-SER79	EQUIPEMENT ET DEPENSES DES DIFFERENTS SERVICES 79
V114	CRE-BUD79	CREDITS BUDGETAIRES 79
V115	IMB-79	IMMEUBLES 79
V116	G-REP-TR79	GRANDES REPARATIONS ET TRAVAUX ELABORATION 79
V117	MEUBLES-79	MEUBLES 79
V118	BUD-PC-80	CONSEIL PREFECTORAL OU COMMUNAL 80
V119	DEP-PER80	DEPENSES DU PERSONNEL 80
V120	EQUI-SER80	EQUIPEMENT ET DEPENSES DES DIFFERENTS SERVICES 80

	V121 CRE-BUD88	V122 IMMB-88	V123 G-REP-88	V124 MEUBLES88	V125 BUD-P-C81	V126 DEP-PER81	V127 EQUI-SER81	V128 CRE-BUD81	V129 IMMB-81	V130 G-REP-81
1 BAB BERRAT	37688	248283	229297	0	0	0	0	0	0	0
2 BNI AHMED CH	54572	35717	0	0	20400	98992	6250	88733	48880	0
3 BNI AHMED RH	0	0	0	0	20400	49789	0	0	0	0
4 BNI GRIR	0	0	0	0	39900	45881	34629	0	0	0
5 BNI RZEN	0	0	0	0	26600	95792	78820	0	0	0
6 BNI SMIH	69822	0	0	0	16200	45371	22411	73723	0	0
7 EL MELHA	51858	25919	11850	0	16800	47588	7220	57820	61428	28328
8 MTIOUA	0	0	0	0	37600	248283	229297	0	0	0
9 TAMOROT	0	0	52975	44889	28200	99116	26960	0	0	27371
10 BAB TAZA	0	35800	41872	0	26400	128299	99860	0	4064	0
11 DEROARA	67898	0	0	0	28400	46386	5888	76510	0	0
12 DERKOUL	0	37400	29613	0	26400	76485	78290	0	2000	16591
13 FIFI	92010	8958	0	0	20400	59439	0	189339	5275	0
14 TANKOUB	0	0	0	0	23200	66726	13440	0	0	0
15 BNI BOUZRA	162460	0	0	0	21000	138565	41255	189178	0	0
16 BNI ZIATE	223473	0	0	0	24900	248891	0	292558	0	0
17 SEBT ASSIFANE	87215	0	0	0	24400	88682	0	87274	0	0
18 TALEMBOTE CHAM	97498	0	0	0	28200	68982	0	118540	0	0
19 TALMBOTE JANOU	159680	0	0	0	28200	106289	0	167310	0	0
20 TLATA ASSIFANE	83660	0	0	0	21800	57936	0	92374	0	0
21 BRIKCHA	0	14800	68356	0	34100	131584	0	52908	0	38208
22 MOKRISSAT	187200	0	28800	0	33100	124689	92256	92200	4000	58600
23 ZOUNI	32857	0	0	0	28800	135599	0	24941	0	0

TOTAL	1325395	397197	445963	44889	542600	2168876	726888	1514608	4767	152498
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VARIABLE	DESCRIPTION BREVE	DESCRIPTION LONGUE
V121	CRE-BUD88	CREDITS BUDGETAIRES88
V122	IMMB-88	IMMEUBLES 88
V123	G-REP-88	GRANDES REPARATIONS ET TRAVAUX ELABORATION88
V124	MEUBLES88	MEUBLES-88
V125	BUD-P-C81	CONSEIL PREFECTORAL OU COMMUNAL 81
V126	DEP-PER81	DEPENSES DU PERSONNEL 81
V127	EQUI-SER81	EQUIPEMENT ET DEPENSES DES DIFFERENTS SERVICES81
V128	CRE-BUD81	CREDITS BUDGETAIRES81
V129	IMMB-81	IMMEUBLES-81
V130	G-REP-81	GRANDES REPARATIONS ET TRAVAUX ELABORATION 81

	V131 MEUBLES81	V132 BUD-PC-82	V133 DEP-PER-82	V134 EQUI-SER82	V135 CRE-BUD82	V136 IMMB-82	V137 G-REP-82	V138 MEUBLES-82	V139	V140
1 BAB BERRAT	0	0	0	0	0	0	0	0	0	0
2 BNI AHMED CH	12000	20400	95541	9000	106521	0	0	0	0	0
3 BNI AHMED RH	0	0	0	0	0	0	0	0	0	0
4 BNI GRIR	0	0	0	0	0	0	0	0	0	0
5 BNI RZEN	0	0	0	0	0	0	0	0	0	0
6 BNI SMIH	0	0	0	0	0	0	0	0	0	0
7 EL MELHA	0	16000	56000	7200	70000	0	0	0	0	0
8 MTIOUR	0	0	0	0	0	0	0	0	0	0
9 TANOROT	60000	20200	196324	40000	0	0	230000	60000	0	0
10 BAB TAZA	0	0	0	0	0	0	0	0	0	0
11 DEDARA	0	0	0	0	0	0	0	0	0	0
12 DERKOL	0	0	0	0	0	0	0	0	0	0
13 FIFI	0	20400	0	0	0	0	0	0	0	0
14 TANKOUB	0	0	0	0	0	0	0	0	0	0
15 BNI BOUZRA	0	0	0	0	0	0	0	0	0	0
16 BNI ZIATE	0	24900	313158	0	380325	0	0	0	0	0
17 SEBT ASSIFANE	0	25000	95000	0	95000	0	0	0	0	0
18 TALEMBOTE CHAM	0	20200	80982	0	210670	0	0	0	0	0
19 TALMBOTE JANOU	0	20200	109289	0	297790	0	0	0	0	0
20 TLATA ASSIFANE	0	23900	71544	0	98484	0	0	0	0	0
21 BRIKCHA	0	34500	303569	0	30000	0	50000	0	0	0
22 MOKRISSAT	0	0	0	0	0	0	0	0	0	0
23 ZOUNI	0	0	0	0	0	0	0	0	0	0

TOTAL	72000	225700	1321407	56200	1290790	0	200000	60000	0	0
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VARIABLE	DESCRIPTION BREVE	DESCRIPTION LONGUE
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V131	MEUBLES81	MEUBLES-81
V132	BUD-PC-82	CONSEIL PREFECTORAL OU COMMUNAL 82
V133	DEP-PER-82	DEPENSES DU PERSONNEL 82
V134	EQUI-SER82	EQUIPEMENT ET DEPENSES DES DIFFERENTS SERVICES82
V135	CRE-BUD82	CREDITS BUDGETAIRES 82
V136	IMMB-82	IMMEUBLES-82
V137	G-REP-82	GRANDES REPARATIONS ET TRAVAUX ELABORATION 82
V138	MEUBLES-82	MEUBLES-82
V139		
V140		

INFORMATION SYSTEM FOR COMMUNITY DEVELOPMENTPLANNING AND DECENTRALIZATION :

The responsibility for the coordination of activities relating to the social and economic development of rural communes resides in the Ministry of the Interior. Since the 1976 reorganization of communal "charters" which emphasizes "grassroots" development participation through elected councils representing local collectivities and the 1977 creation of a commune civil service, attention has been increasingly focused on the members of the councils and their staffs as important actors in defining local development needs and establishing the priority of development tasks.

Several Divisions within the Ministry of the Interior seem to be directly concerned with the identification and coordination of community development activities, among which the Direction des Collectivites Locales, the Direction des Affaires Rurales, and the Direction de la Formation des Cadres.

With several divisions involved in community development coordination activity it would be logical that some type of flow of information within the various divisions would exist. Currently it appears that the Direction des Affaires Rurales and the Direction de la Formation des Cadres, have been formed by reducing some of the functions previously under the Direction des Collectivites Locales and at the present, relations among the Divisions are not permitting an easy access to data and information of the others.

It appears from scattered references, however, that at least, several studies have been undertaken in recent years, which have surveyed the existing infrastructure and resources of local communities in at least some provinces. References are also encountered for other studies which have solicited the needs as expressed by local leaders. Unfortunately, at the present time the results of these studies cannot be easily located. No readily accessible archive of such studies is known. No data bank of systematic information on local collectivities appears to be available for community development planning.

The need for such an effort to formulate a set of baseline data for local collectivities would seem to be an important priority for future activities concerning planning of investments in infrastructure and personnel.

While the need for such an integrated data bank on the attributes and needs of local collectivities seems to be apparent, the development of such a data center probably does not fall under the scope of work of the Division de la Formation des Cadres. The DFC would do well to coordinate and participate directly in the establishment of such an information system to assess community development needs and monitor interventions at the level of rural collectivities. Training content would seem to depend on the availability of such information.

Unfortunately, the design of such an information system is outside the scope of work of this consultant at the present time

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and we will be concerned more narrowly with manpower planning activities of the DFC largely in isolation from other community development planning activities or the real needs of local collectivities in terms of infrastructure and basic services.

The possibility does remain, however, that in the future a true informationsystem may be developed if various divisions and departents engaging in data collection efforts using the same units of analysis, such as communes, use the same data processing facilities and develop compatible files of machine readable information. The potential for such a situation may be improved with the establishment of a national computer facility or the decision to use the existing set-up in the Direction des Statistiques, Ministry of Plan. Such a situation would allow for the integration of data from a number of different ministries such as Agriculture, Health, Social Affairs, Education, etc. The problem of such a centralized data bank is the difficulty of access by regional and local officials. This problem's solution will be eluded to in a later section.

It would be irresponsible to ignore the desirability and the rationality of treating the informational needs and statistical production of the DFC as one component of an integrated information system of the MOI or indeed of a multi-ministerial center of documentation dealing with community development research, planning, implementation and evaluation. In this light, it is important to project potential collaboration and plan for future integration of files and information flows.

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INTEGRATED PLANNING :

Integration of manpower planning (Staffing and training) for local collectivities within the context of integrated development planning for community improvement could probably best be achieved if this activity were treated as an essential part of the planning process rather than as a separate, ex post facto activity. Currently, community development plans are laid down and then a separate projection of personnel needed, presumably as a prerequisite to carrying out the planned projects, is made. Recruitment and training of local staff is then pursued. It seems most difficult, on such short notice, to provide the trained technicians needed with this approach to manpower planning.

A more satisfactory solution in the future might be the integration of the training of the staff for local collectivities with community needs assessment in general. Looking at actual levels of community development = in terms of basic infrastructure, financial resources and personnel, would provide a baseline for planning not only development interventions in terms of projects, but also transfer of funds to the local level and intervention in terms of training of local leaders and their support staff.

This approach of treating local training as one aspect of the development "needs" would have the added advantage of allowing the integration of information of current level of development and appropriate strategies into the actual training curriculum. As the World Bank report has so appropriately pointed out :

The establishment of a classification of level of community development would appear to be an absolute prerequisite for the preparation of graduated assistance programs and of instructions to officials employed at the local level to provide them with some guidance in seeking to stimulate and support development efforts. These instructions, the degree of complexity of which would have to be tailored to each type of commune, would concern the priorities established in the National Plan for the region in question, project identification and preparation methods, financial and manpower assistance programs run by central institutions and available to the local authorities, and the relations to be established with the Offices of the Ministries and Agencies represented at the local level. (World Bank Report p. 279).

REGIONAL MANPOWER PLANNING AND TRAINING :

Currently Morocco is moving towards regionalization and decentralization of planning of development inputs and activities. In keeping with this trend, manpower needs assessment and training activities in the future may move to the regional level in order to interact more closely with other planning efforts - such as project planning and implementation.

The DFC plans to have two training centers in each of the seven economic regions - a Centre de Formation Administrative Economique et Sociale (CFCA) and a Centre de Formation des Cadres Techniques (CFCT). At present, at least one CDCT and one CFCA is located in each of the economic regions with the exception of the Tensift region (El Kalaa des Sraghna, Essaouira, Safi and Marrakech) where there is a CFCT in Marrakech but no CFCA, and the region of the south (Agadir, Boujdor, Es-Smara, Guelmin, Laayoune, Ouarzazate, Oued Eddahab, Tan Tan, Tiznit, and Tata) where neither a CFCA nor a CFCT has been established yet.

With the creation of centers to provide trained personnel for local communes in each of the seven economic regions, it may become desirable to emphasize regional recruitment of training participants and placement of graduates. No studies are available to assess the current recruitment patterns resulting from national competitive exams for entry into the training centers and the subsequent placement of graduates. While the programs

are relatively new and the market is wide open, it is probable that successful candidates are drawn from more developed sections of the country and prefer to accept jobs near larger metropolitan areas or near their places of origin. The national recruitment policy may work to further disadvantage certain regions in terms of being able to attract and keep trained staff. In the future a decentralized policy of manpower planning and recruitment of training participants may better answer local commune staffing needs. For example, a policy allowing communes to nominate candidates and current staff members for training programs as well as short-term seminars might better serve the needs of rural communes, especially in disadvantaged regions. The World Bank Report again echoes this hypothesis that the locally recruited commune administrator-managers could be expected to show more interest in the problems of their own communities than outsiders posted there by a central authority. (World Bank Report, p. 279-80). This report goes on to suggest that local recruitment should also make for greater staff stability.

DFC Management Information System :

The Division of the Formation des Cadres of the MOI is centrally concerned with training staff and officials to work at the Provincial, Municipal, Cercle and especially the commune level. The recruitment of students and their training delimits their responsibility and concern at the present time. Currently, the DFC is not in charge of placing their trainees nor in evaluating the impact of their placement with local collectivities. In the future, the DFC will be providing in-service training seminars for elected officials. This activity should become increasingly more important after the 1983 elections (scheduled for the first trimester) when new officials will be elected to serve a six year term.

Currently, the DFC is attempting to estimate the needs of communes for trained technical and administrative staff relying on information now being provided by the Commune Presidents in response to a questionnaire designed and administered by the DFC. Basic information has been collected in seven provinces concerning present staffing patterns as well as future projections of staffing needs. The future projections are legitimized by information concerning development projects anticipated in the 1981-85 Plan as reported by the local officials. Data are being collected on the background of the present local commune staff in various functions, budgets for the next five years, number of staff needed in different positions over the next several years, and types of projects and budgets for developement activities included in the 1981-85 Plan.

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APPLICATIONS OF A MANAGEMENT INFORMATION SYSTEM :

The ultimate objective of the DFC is to efficiently plan training activities to meet the needs of local collectivities. In addition, it would be useful to provide for monitoring and process evaluation activities which would allow for more pragmatic use of resources.

Currently two types of information are felt to be needed by the DFC :

- baseline data on the needs of the local collectivities for trained staff for the next 5 to 8 years and their resource base to afford such staff.

- resources and facilities under the control of the DFC buildings, teaching staff and students.

At present, the baseline data on local collectivities is limited to the information being solicited from local leaders using the questionnaire mentioned above. It may be feasible to tap additional data sources to estimate levels of population, the existence of basic infrastructure (INSEA Equipment de Douars), and a study of the priorities of felt needs of local collectivities (study undertaken by Division des Collectivités Locales)

The second data base is currently limited to a list of the training centers and the number of students currently enrolled in each program - and at what stage. A census of students and teaching personnel is envisaged for the near future as is an inventory of

buildings. Evaluation has been mentioned only in passing and is viewed as basically a very difficult undertaking. In the more distant future budgeting is seen as another possible application.

The attached report concerning the "Preliminary Analysis of DFC Data Bases" provides a good idea of what information is now available for use by the DFC for planning purposes.

The DFC is currently preparing data collection instruments to collect data on students and faculty members in the different training centers.

A couple of sessions were devoted to suggestions for the design of data collection instruments. The general guidelines which were presented were the following:

- Keep it simple, avoid data pollution by collecting more information than one has a practical use for. Plan in advance how the information will be stored and how it will be analyzed for what objective.
- Design questionnaires and other data gathering instruments with a format and precoding scheme which will provide for ease in transferring the information to machine readable files (for example, one line per item (variable) and precoded columns for answers.

An example of a form for a student census is attached. This form includes items concerning future job placement which will be applicable only after a student has completed training and has been attached to a commune. Whether this type of information needs to be maintained for each individual trainee in a centralized filing system (2300 ± students in 1982 alone) is debatable. Perhaps aggregated statistics from each training center program would be more directly useful to the DFC with individual level data and dossiers being retained at the regional level.

(Suggested format for census of students enrolled in DFC training centers)

(Heading) :

NOM et PRENOM	:			ID	
1. Centre	:			V1	
2. Spécialisation	:			V2	
3. Promotion	:			V3	
4. Origine (Commune Province	:			V4	
5. Date de Naissance	:			V5	
6. Sexe (féminin (1) masculin (2)	:			V6	
7. Marié	:	oui	(1)	non	(2)
				V7	
8. langues	:				
Arabe parlé	:	oui	(1)	non	(0)
				V8	
lu	:	oui	(2)	non	
Français parlé	:	oui	(1)	non	(0)
				V9	
lu	:	oui	(2)	non	
Berbère	:	oui	(1)	non	(0)
				V10	

Affectation :

11. Commune	:		V11	
12. Année	:		V12	
13. Position Adminis.	:		V13	
14. Echelle	:		V15	
16. Indice	:		V16	

One of the more practical exercises in the area of the identification of data needs, was an attempt to assist the DFC personnel to design two fiches for providing information about participants in the May TOT seminar - both a fiche for

- 12 - 15 Formateurs, a Corps of Trainers who will improve their teaching or information delivery skills and

- 75 local elected officials who are supposed to be trained subsequently by the trained trainers in 3 one week "practice" seminars.

It is anticipated that these participants be selected or identified by the end of March, 1982.

Rather than provide a suggested set of items for a background profile and a format, I've discussed the general outline of possible information of interest for each type of participant with M. Mrini who is doing some of the spade work for these seminars. Inshallah you will find attached at least a first draft of such data collection instruments.

One thing that I have repeatedly emphasized is the possibility of using a couple of items to elicit from the participants their conception as to what they would like to get out of the training. For the Formateurs this might be what skills they would like to develop; for the elected officials what problems they encounter in their work and what information they would like to take home from the seminar.

No information on training needs for local officials currently exists or is being collected by the DFC. Therefore, the May seminars for 75 local elected officials will serve as a pilot to help plan for future regional training sessions after the 1983 elections (scheduled for first trimester) and for data needs. Currently I understand the Bureau of Elections of the DCL collects basic background data for all elected officials.

As for data needed for faculty and staff members, aggregated data on the numbers of full-time and part-time staff and teachers involved with each training program, cost in terms of salaries and benefits are useful at the current time. Curriculum vitae type information on faculty members backgrounds may be useful when in-service training of teachers is planned. For example, seminars on such topics as use of audio-visuals, panel discussions and debates or other teaching skills may be designed on the basis of interest expressed by faculty members in response to a standardized inquiry. Other substantive type seminars may be organized to impart information on new administrative procedures that need to be taught to students, new potable water delivery systems, etc..

However, as most instructors in the training schools are part-time personnel, it is probably not worth the effort to compile large dossiers of information on each instructor for planning of training or control of staff. This is probably one area where local center directors need to have some autonomy in securing qualified, experienced people to teach a wide variety of courses. It may be worth while to concentrate on the cooperants who tend to form the backbone of the full-time teaching staff in these centers, especially the technical centers and assist these young instructors with course design and teaching skills before they undertake their assignments.

Evaluation has been mentioned only in passing although it is a separate function in the organigramme. Evaluation of the training efforts of the DFC should become an important element in program planning. Ways of answering the questions of whether personnel are being adequately trained to perform the tasks they are being called upon to undertake and how could training programs

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in the centers and in the seminars be improved, need to be devised. What needs in terms of new skills are felt for which training could be provided ? Evaluation of past efforts and planning for the future need to go hand in hand.

POTENTIAL USE OF PROFILES OF LOCAL COLLECTIVITIES :

Future data bases and applications for commune level information include the following :

1. Baseline data at the commune level.

Currently, needs of local collectivities are being estimated from needs expressed by Commune Presidents. In the future, it would seem to be desirable to develop a data base reflecting and measuring the actual levels of development of local communities. The World Bank Report acknowledges the desirability of classifying communes according to their level of development using a combination of simple indicators such as population characteristics, geographic location, level of existing infrastructure and financial resources available in order to determine the nature or extent of the support they could use from the central authorities (p. 279). The implications of such a categorization of local collectivities for development policy decisions are numerous. A major concern involves the compatibility between area of authority, financial resources and manpower. Poorer communes may require larger financial grants (as opposed to loans) and of technical assistance. There may be a greater need for trained technical staff to assist local councils in more disadvantaged collectivities. In addition a study of the existence and development of basic infrastructure would provide a comparative guideline for general development strategies and the anticipation of future manpower needs. In, most countries, it has been found that basic infrastructure accrues in a predictable pattern whereby most all communities may be expected to have certain basic infrastructure which is locally determined or defined. In one country, this may mean a primary school or potable water system or health services or whatever has been defined

as most "basic" and should be made available to all citizens and communities. One or a few communities in a given region will have available more specialized or difficult services such as a secondary school, permanent market place, hospital, etc..

Certain infrastructure is basically accessible to all communes and may be somewhat more under local control - e.g. potable water, garbage collection, sewage, development of public places such as parks. Theoretically, this basic infrastructure could be developed locally by all communities. Other infrastructure is under the control of central and these will not be available to all communities. Within any given system or cultural pattern with a large number of communities having locally defined "basic" services and then fewer and fewer communities with each succeeding "more difficult" type of service and finally a few elite communities, often head towns of a province with a full complement of all possible services. Much of community development activity involves a community's efforts to add on the next service in the scale or to fill in the holes where basic services are lacking. Awareness of such development patterns can be used to anticipate future needs for services and trained staff to develop and support these activities and this information can also be used to clue in local leaders as to how the system works. For example, in general, a commune which has only the most basic of services would not be advised to be jumping ahead and adding the most difficult item in the scale without first building up a support system of the intervening items. There are always exceptions to any pattern but often the exceptions - the town that got an electrical generator before it got drinking water will find they don't have

funds to provide kerosene to run the generator or the technical skills to keep it in running order.

A simple index of level of development based on the accumulation of infrastructure in this manner is very easy to devise and when combined with other indicators such as population size, sustenance base and projects planned one can begin to tap the administrative needs and development potential of various communities.

2. Local Revenue Study :

In addition to general baseline data on demographic and socio-economic characteristics, and existing infrastructure of communes, more detailed information concerning the financial resources of the local collectivities is desirable for development planning activities. A study of local revenue and budgeting concentrating on the local generation of revenue and its limitations and potential would help to plan for staff training in this important areas with the aim of improving the situation of various types of local units. Some will need to seek basic grants to improve the level of living of their constituents while others may be able to find other means to generate income.

3. Impact evaluation of staff training :

Evaluation of the impact on communes of various development strategies including the intervention of trained technical and administrative staff to assist commune personnel is also needed. Do communes receiving the assistance of Secrétaires Généraux improve their position in the development scale when compared to similar communes without such assistance ? Do these communes improve their administrative performance and increase

their ability to draw on more resources ? The next 4 to 5 years offer a unique opportunity for evaluation studies of this type of the impact of an infusion of specially trained staff to spur rural development.

It is very doubtful that DFC has the mandate or is in a position to undertake any of the above mentioned studies by itself. It seems to become more and more important that a way be found to bring about collaboration and cooperation with the DCL which already has amassed a large body of data (or such is its reputation) on the communes. If this is not the case, it may be possible when data are available from the forthcoming census to undertake some of these research studies if it is possible to collaborate with the Direction de la Statistique of the Ministry of Plan.

STATISTICAL ANALYSIS

At present, the statistical analysis envisaged by the DFC is limited. There is a use for univariate descriptive analysis (percentages, frequencies, means) and contingency table analysis for regional comparisons. There will also be need for listing units (students, personnel, training centers etc.) in different formats.

In the future, it will be desirable to project numbers of trainees and calculate cost per training participant.

The attached report on preliminary data analysis provides some examples of how correlations and cross-tabs might be useful.

COMPUTER CONFIGURATIONS :

At the present time, the data processing needs of the DFC do not justify the investment in expensive computer equipment, which may not have appropriate software packages available for the applications anticipated and which would require the staffing of new posts with computer specialists. The most rational solution for the DFC, would be for it to contract with an organization already staffed with technical personnel and having available unused computer capacity which could be used on a time-sharing basis. If, in addition, the organization were to have available systematic data on the local collectivities, for example, data from the census, it would be extremely useful to develop compatible files that would allow the integration and expansion of the available data bases. In the light of the problems of coordination and cooperation, the more pragmatic solution may be to consider the use of a microcomputer system which is not costly and which has available general statistical packages designed for use by persons who have no previous computer training. No special staff members trained in computer programming or data input need be recruited. It is possible and indeed desirable, however, to train a large number of DFC staff to be computer users - persons who are capable of correcting values, adding information or out-putting statistics and tables. It is, of course, recognized that it is necessary to designate and thoroughly train at least two staff persons in data entry and system maintenance. These persons would be responsible for keeping the system operational and maintaining data files current.

Micro-computer systems and their user-friendly software packages allow for the decentralization and deconcentration of information and the democra-

tization of information production and use. Lengthly and costly training of wetwar which will serve as a gatekeeper, is no longer necessary or desirable as an initial investment. Existing software packages allow for immediate start-up and relatively rapid analysis rather than the long gaps necessitated if programs must first be custom produced for each application.

An encouraging possibility for future integration and cooperation exists in the potential for micro-computers to interface with larger main-frames acting both as terminals and for up-loading and down-loading data sets. Micros can also be connected in networks ending the isolationist existence should the necessity or desirability of interfacing with other agencies be forthcoming.

In the future the use of micro-computer systems may eventually allow for regional information systems which would provide easier access by regional planners, local officials and training center administrators. Should regional information systems be established, a synthesized data file by province or regions could be distilled from the raw data in the process of data reduction and index construction and transferred to a central data bank. Such synthesized data file by province is readily manipulatable and accessible to policy formulators and planners in a way that hundreds or thousands of cases collected at the national level are not.

SOFTWARE

Currently, two very interesting and useful user-oriented packages for statistical analysis and managerial applications exist in Rabat. The Statistical Package for the Social Sciences (SPSS) has just recently been mounted at the Institut de Statistiques, Ministère du Plan. This package runs on a large main-frame (Honeywell Bull 6040 in this instance) and the center is available for use by interested users in other Ministries. Currently, the Ministry of Social Affairs is contracting with the Statistical Institute to work on data processing for an on-going nutritional survey.

A second user-oriented, interactive statistical package is available in Rabat for use with the APPLE II micro-computer systems. ISIS, the Interactive Statistical Inquiry System, designed and distributed by Information Systems International is currently being used on several Ministry of Health micro-computer systems and one at INSEA. This software package is available in French.

Both of these canned programs require no special knowledge of computer programming for their use. While use of SPSS on a mainframe would allow for the building of large data files of thousands of cases (for example, a census of all elected officials should the need for such be demonstrated), ISIS is currently designed to handle data bases for 200-300 cases or observations (communes, officials, students, etc). The use of ISIS and a micro-computer currently encourages the division of data into manageable sets by economic region, province or training speciality. Such data processing techniques encourages regional comparisons. (NB. ISIS could be rewritten to handle more cases and other mass storage devices would allow for large centralized data banks).

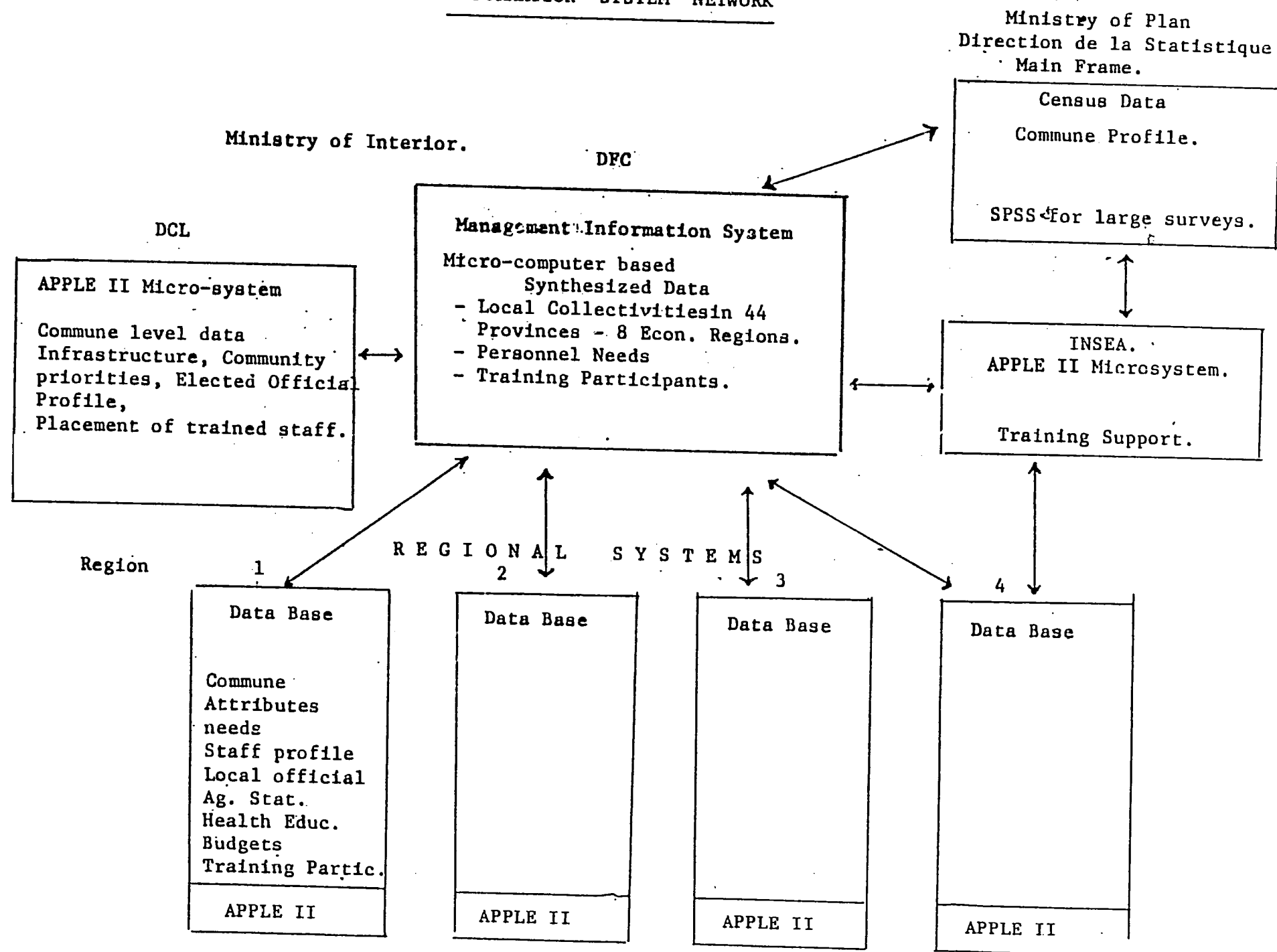
Perhaps from the point of view of an information system which would allow maximum access for policy formulation for planning of training activities and on-going monitoring and evaluation, a micro-computer based system with interactive software packages would be the ideal central component. A large number of staff members in the central office of DFC would be trained to operate and interact with the data base and produce needed output (unlike the case of the Xerox machine).

Data files would consist of such data as aggregated information concerning regional needs for trained staff, students currently in training in regional training centers and elected officials who have been trained or targeted for regional training seminars. The centralized data files would not necessarily constrain the actual names and detailed information concerning the students, elected officials, projects planned for each commune, local commune staff employees, etc. This detailed information would be retained at the regional level and be readily accessible to regional planners, local officials, training center administrators, etc. Only the aggregated figures of how many water projects by region, need for how many conducteurs de travaux, how many places in training seminars, etc. need be passed to the central administration. If the DFC had to deal with the thousands of pieces of information which go into the final result, there would be no hope for it to have the time to do its real job plan and administer training activities for MOI local collectivities personnel.

On the other hand, the central office of the DFC could play an important role in interfacing with other data collection activities such as

the Ministry of Plan's Division de la Statistique to have information forthcoming from the next census concerning local commune infrastructure, level of living, demographic characteristics, etc. A micro-computer can generally be used to interface with a mainframe, acting as a terminal or for up-loading and down-loading data sets. Such a system might enable a centralized coordination, collecting available data sets from other organizations and agencies and then transmitting this information to the regional levels for use by local officials and planners. For example, identification of the projects envisaged in the future Plan for 1986 may be more efficiently accomplished by contacting the Ministère du Plan for a systematic machine readable list of the projects which have been approved along with their credits by year for each commune (rather than touring the country and asking each Commune president to labourously recapitulate this information). Similarly, the returning of the results of the 1982 census to the regions in machine readable form with an easily accessible set of software programs would seem to be very beneficial to the decentralization of information and decision making.

INFORMATION SYSTEM NETWORK



Micro-computer based Regional Information System

COMPARISON OF COMPUTER FIGURATIONS FOR DFC APPLICATIONS

I did not have the opportunity to compare computer facilities and configurations available in Rabat and evaluate their relative utility for DFC applications.

It seems that SPSS would be able to handle all the needs of the DFC and that the Min. of Plan, Direction de la Statistique is willing to cooperate with other Ministries to assist with data processing and analysis when called upon.

If the DFC feels that it needs its own in-house computer facilities it may wish to consider a number of things when making a final choice concerning a configuration of hardware and available software. I believe the DFC has already collected some literature on various types of micros and minis being sold in Morocco although I did not review this information. I would suggest, however, that they take into account the attached list of factors, paying special attention to software availability for statistical manipulation of different types of data sets.

Hardware is developing very rapidly and is far ahead of software. The availability of general software packages for basic applications is undoubtedly the most crucial element in deciding which system is most cost-effective and useful. Huge investments in resources are required initially if one needs to hire special programmers to develop custom software to do the analysis of a given questionnaire. Many months are often required to produce only marginal frequencies.

APPLE II AND APPLE MICROCOMPUTER CONSIDERATIONS :

The ISIS package running on the APPLE II is unique in that users can be trained who have no prior computer science background to set up data sets and proceed with relatively sophisticated analysis in the short period of a few weeks.

ISIS is currently the only known generalized statistical package running interactively in French and Arabic on a micro-computer system.

If the DFC wishes to consider the use of an APPLE micro-computer system for its applications there are several basic choices concerning models and configurations.

APPLE II Plus with 48 K is the most widely distributed model and the current versions of the ISIS package run on this model.

APPLE IIIs are now available with increased capacity of memory (128 K or 256 K) ; a different form of BASIC programming language and a different Disk Operating System.

The ISIS package designed for the APPLE II system would run on this new model when it is in the emulation mode. However, the ISIS package would have to be rewritten in APPLE Business BASIC or PASCAL to take advantage of the improved disk operation system and to make use of the enhanced memory capacity. (A larger number of cases could be handled and other statistical modules be added - e.g. factor

analysis, if needed)

MASS STORAGE SYSTEM :

Currently, the APPLE II System uses two floppy disks with 140 K of storage per disk. Would such a system be adequate for the applications or would a hard disk system ranging from 5 Megabytes to 20 Megabytes of storage be required ?

ARABIC :

Is it desirable or necessary for the system to have Arabic capacity ? Thinking to the future, the answer is that it would be preferable if it is feasible. If the system aims to decentralize information, local officials can more easily relate to Arabic than French.

APPLE conversions in Arabic, are currently available and ISIS is running in classical Arabic, with Indian numerals. This model allows one to switch back and forth between English/French and Arabic characters so one has both language available. The major concern, however, is that Morocco seems to be insisting on including vowels rather than using only classical Arabic. If such a conversion or modification were necessary it would have to be done for both processor and printers which might prove to be prohibitively expensive. (I had hoped to check with the Ministry of Plan, Dir. de la Statistique concerning this as they have equipment which has been converted to the Moroccan Arabic system).

The availability of the Arabic conversion of an APPLE III system would need to be checked as well as the existence of other

useful generalized software packages in French and Arabic for the II and III models (text processing; accounting packages; file cabinet programs, etc)

General items for comparison of hardware/software configurations follow.

COMPARISON OF COMPUTER CONFIGURATIONS :

Systems characteristics :

Capacity of Memory

Mass Storage

Programming Languages

Storage package availability

What applications

Generalizability

Available in French, Arabic

Training needed, provided

Printers

Other peripherals, graphic pads, etc.

Environmental Tolerance

Local Service

Warranty

Mobility

Delivery Time

Price.

In summary, it would probably be a mistake for a separate, completely autonomous division of the MOI, to undertake to plan manpower needs and training of local officials and staff from a centralist position in relative isolation from the many agencies concerned with planning and implementing community development activities. Cooperation and coordination of activities are certainly desirable.

It would likewise be regrettable to invest vast resources to build a centralized information system existing in relative isolation from the currently available data bases and duplicating resources.

The use of a vast nationwide data base of local staff's backgrounds is of questionable use in terms of practical applications for the development of training programs although it appears that such a data base may well exist for locally elected officials although it is not in machine readable form. A preferable solution from the point of view of a system which is attempting to decentralize is the integration of manpower planning and training for local officials with on going planning and coordination of community development activities at regional levels.

The aim would be to develop a wide-based, integrated data set which would include many sectors (agriculture, health, basic infrastructure, commune persone as well as local officials and their specialized training). Such a regionalized information system could be available to and used by a number of specialists concerned with decision-making in the broad area of community development.

It would appear that a regional networking of microcomputer based information systems would be more useful for decentralization efforts and more cost effective, serving the needs of a large number of agencies and actors. Contrast the use of data files for 150-200 communities in an economic region containing data on a large number of variable from local administrative structure, development project underway local budgets and revenues, agricultural base, health statistics, educational infrastructure to locally identified development priorities, with a massive centralized data file with very limited access for staff needs of 850 plus communes or 50,000 plus local officials backgrounds - but with no other variables or information. Such a uni-dimensional, compartmentalized yet centralized, limited access system is relatively useless and very expensive when compared with the potential of a decentralized regional information network covering a wide spectrum of development dimensions and emphasizing participation on the part of a large number of agencies and local personnel. Of course such a regional design posits coordination at the regional level where such cooperation and sharing of information at the national level often fails. Perhaps, the existence of a common goal - regional advancement - could replace the current goal of agency agrandissement.

USEFUL CONTACTS FOR DATA SETS ON COMMUNES AND DATA PROCESSING FACILITIES

I did not have the opportunity to contact these people but I would have liked to have followed up the leads which were so kindly provided by a number of sources.

INSEA- Dr. Benyaclef, Director

INSEA published a study of the Equipment de Douars which looked at basic infrastructure (potable water, electricity, hammam, dispensaries, schools, mosques, souks, etc.). While all communes were not included in this study, 20 of the 23 communes of Chaouen were surveyed. See the attached list. Communes with the 1971 geographic code were included in the study. Results of basic infrastructure available in these communes would be very useful for DFC purposes if the disaggregated information can be made available for communes.

INSEA has an APPLE II microcomputer system and ISIS software package in French. The DFC may be able to use this equipment to continue data analysis should it decide to do so.

ARAFATI Amine is in charge of the APPLE II equipment. Tel. 709.15 or 709.23 poste 342

Ministry of Plan, Direction de la Statistique

Have a Honeywell 6040 and a number of software packages including SPSS. They are already contracting with other Ministries for data processing and analysis activities.

Contact Mr. Khadiri, Chef de Division de l'Informatique
Tel. 733.62

The 1982 census will include a commune data base. Plans to incorporate this information is tied to Project 608-0162, USAID and UN project. A commune profile including an inventory of infrastructure will be forthcoming as part of the census activity.

Mr. ElGhazali, Chef de Division de la Population, Dir. de la Statistique
Tel. 730.01 can provide more detailed information on what commune level data will be collected and estimate when it will be available for users.

Centre National de Documentation, B.P. 826, Rabat Tel. 74-9-44
Mr. Tadlaoui Noumir, Chef de Service

I'm not sure what the CND has for data sets but I had hoped to find out. I understand they have a HP 2000 or 3000.

And last but not least Pandora's box

Ministry of the Interior, Direction des Collectivites Locales

Word has it that the DCL has collected a large data base on the attributes of the communes.

One study in particular is of interest.

M. Zahir of the DCL (DPE) has reportedly undertaken a study of infrastructure needs of chefs lieux des communes.

It is probably this study which was quoted in the Douar Potable Water System paper where 400 plus villages in 10 provinces were identified as requesting assistance with potable water as a priority need.

Other branches of the DCL also collect data of interest to the DFC. For example, the Bureau of Elections is reportedly collecting background information on local elected officials.

Someone in DCL has information on the placement of students trained in the MOI centres de formation which would be useful for follow-up evaluation.

Also the same someone may be establishing the list of positions where the present students will be placed!

APPLE Dealer

M. Housni

American Micro Computers

Av. l'Armee Royal No. 10 (first floor) left side, beside Tunis Air
Casablanca

Tel. 27-84-84

Junotec

5, RUE FRANCOIS PONSARD
75016 PARIS
Tél 524 37 40 (lignes groupées)
TÉLEX SEMOULE PARIS 610942
SIRET 562107920

LE MICRO ORDINATEUR apple II

C'est sa conception astucieuse qui en fait la simplicité. APPLE II va changer l'idée que vous vous faites des ordinateurs. Comparé à la première génération des ordinateurs «amateurs», APPLE II est d'un emploi plus facile, plus rapide, plus petit et plus puissant.

Il apporte au calcul personnel un nouveau degré de simplicité grâce à l'élaboration du matériel et du logiciel. APPLE II va s'étendre au fur et à mesure de votre expérience et de votre habileté avec les ordinateurs.

Des caractéristiques de pointe telles que le langage BASIC incorporé, des tracés en couleurs perfectionnés et l'utilisation de mémoires ultra-modernes à haute densité (ROM et RAM de 16 K) le mettent dans une classe à part.

Mais pour profiter de votre APPLE II vous n'avez pas besoin de savoir reconnaître une ROM d'une RAM = c'est sa simplicité qui en fait la beauté.

C'est un ordinateur complet, prêt à l'emploi, pas un «kit». Tout est inclus.

Branchez-le sur votre téléviseur couleur* et vous pouvez commencer à écrire vos propres programmes dès le premier soir. Même sans aucune expérience préalable, vous pouvez inventer des jeux en couleur, créer des dessins artistiques ou demander à votre APPLE II de gérer votre budget familial.

Rien de plus facile que de converser avec votre APPLE II grâce à son clavier de machine à écrire.

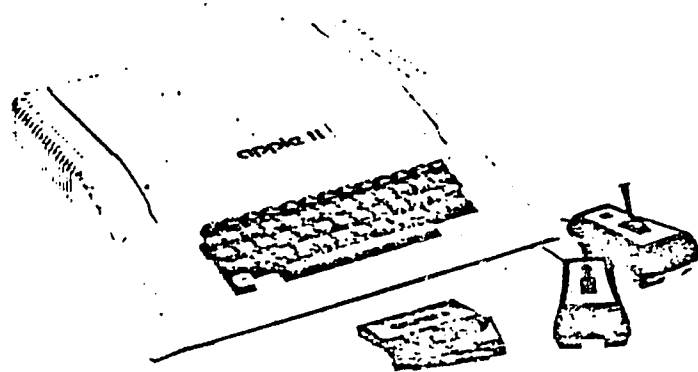
Les jeux ont toujours constitué une des applications les plus créatives et passionnantes des ordinateurs et l'ingéniosité de APPLE II vous guidera par la main dans la création des jeux que vous inventerez, du ping-pong à la guerre des mondes.

Le BASIC d'APPLE II contient des instructions originales pour l'utilisation des tracés en couleur (COLOR = PLAI, HLIN, VLIN, SCRN) grâce auxquelles même un débutant peut créer d'éblouissantes réalisations graphiques ou programmer des jeux comme le tennis.

Puisqu'on peut afficher du texte en même temps que les graphiques, votre programme pourra afficher les scores, donner et recevoir des ordres et même émettre ses commentaires sur votre adresse !

Manettes et «manches à balais» sont faciles à connecter à APPLE II grâce à sa prise spéciale d'entrées/sorties pour jeux, et une instruction nouvelle en BASIC, (PDL) donne automatiquement la position de la manette. Cela simplifie l'écriture des jeux animés. Le haut-parleur incorporé à APPLE II résonne lorsque la balle rebondit ou qu'un point est marqué. Dans «la guerre des mondes», vous entendez les torpilles et les missiles.

La simplicité est le comble de la sophistication



Mais APPLE II peut faire bien plus que vous divertir : en jouant avec lui, vous apprendrez ce que sont les ordinateurs et comment ils sont passionnants.

Vous découvrirez comme il est facile d'écrire un programme pour faire faire à votre APPLE II des choses telles qu'apprendre l'arithmétique ou l'orthographe à vos enfants (OUI, vos enfants peuvent parfaitement utiliser APPLE II. Il est robuste et son boîtier est pratiquement incassable).

Et vous conserverez vos programmes à l'aide de votre propre magnétophone branché sur l'interface incorporée, en les enregistrant sur mini-cassettes.

D'autres sources de programmes sont la bibliothèque APPLE II et les autres utilisateurs de votre quartier.

Des extensions mémoire peuvent élargir vos horizons.

Par exemple, avec 12 K ou plus, APPLE II peut générer des graphiques à haute résolution (280 x 192 points) en quatre couleurs, utiles pour des applications scientifiques, médicales ou artistiques. La mémoire disponible à l'utilisateur peut-être étendue jusqu'à 48 K par simple insertion de bloc mémoire supplémentaires dans les supports.

De plus, plusieurs cartes d'interface pour périphériques sont annoncées, qui s'enfichent dans les 8 connecteurs déjà prévus à cet effet, et vous permettront, par exemple, de synthétiser de la musique ou de communiquer par téléphone avec un autre ordinateur.

Au fur et à mesure de votre expertise, vous apprécierez mieux les raffinements inclus dans votre APPLE II.

Son moniteur, contenu dans 2 K bytes de ROM, comprend un mini-assembleur, un désassembleur, des routines de pas-à-pas et de mise au point, un système de virgule flottante, un calculateur à 16 bits simulé par software, et plus encore...

APPLE II est un ordinateur personnel avancé et vous passionnera des années durant.

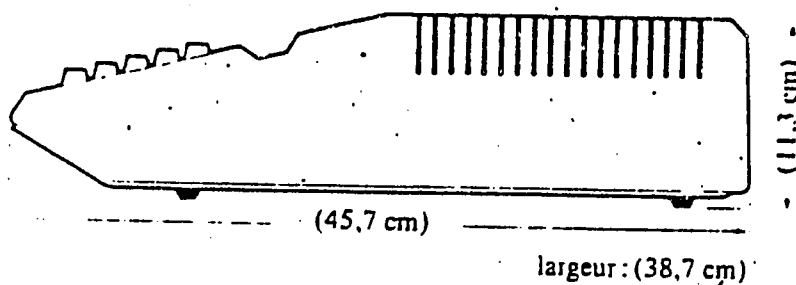
*Fonctionne aussi avec un Moniteur vidéo ou un téléviseur N et B.

SPÉCIFICATIONS

APPLE II est un ordinateur complet, prêt à l'emploi, se branchant sur tout téléviseur couleur. Il comporte le BASIC et un Moniteur en ROM (8 K octets de mémoire), les tracés en couleur, 4 K de mémoire programme (extensible à 48 K), l'interface pour magnétophone à cassettes, le connecteur entrée/sortie pour les jeux, un clavier ASCII du type machine à écrire, une alimentation secteur, le tout dans un élégant coffret moulé.

Les accessoires inclus sont :

- une cassette de programme de démonstration
- deux leviers de commande pour les jeux
- un manuel



MICRO PROCESSEUR

Type 6502 (Rockwell) avec horloge à 1 MHz.

SORTIE VISUELLE

Le processeur de sortie vidéo affiche le contenu de la mémoire sous forme de texte, de tracés couleur ou de graphiques à haute résolution (accès-mémoire totalement transparente).

Les deux modes graphiques peuvent inclure quatre lignes de texte en bas de l'écran. Tous ces modes sont choisis par logiciel.

De plus, le programme peut choisir l'affichage de deux blocs de mémoire distincts.

TEXTE

- 24 lignes de 40 caractères (majuscules 5 x 7 points)
- caractères normaux, inversés (noir sur blanc) ou clignotants
- puissant logiciel de commande en ROM
- commande totale de la position du curseur
- affichage rapide (1000 caractères seconde)

TRACES EN COULEUR

- résolution de 48 lignes de 40 colonnes, ou 40 x 40 avec 4 lignes de texte.

GRAPHIQUES FINS

- résolution 280 x 192 x 280 x 160 plus 4 lignes de texte
- quatre couleurs (blanc, noir, violet, vert)
- affichage de 8 K octets (nécessite au moins 12 K de mémoire RAM).

MEMOIRE

La mémoire RAM est composée de trois sections, qui peuvent contenir des blocs de 4 K ou 16 K chacun ; des blocs additionnels sont faciles à installer après l'achat, donnant une expansion totale de 48 K sur l'ordinateur de base. Celui-ci comporte également 8 K de ROM (mémoire permanente) contenant le langage BASIC et un moniteur puissant.

Deux emplacements supplémentaires sont déjà prévus pour des extensions futures de ce logiciel de base. Accès mémoire rapide (350 ns) et régénération automatique sans effet sur le logiciel.

ENTREES/SORTIES

APPLE II comporte un clavier ASCII, une sortie vidéo directe et un modulateur VHF pour connexion directe à l'antenne de votre téléviseur, l'interface pour un magnétophone à cassettes du commerce, un haut-parleur, un connecteur d'entrée/sortie pour jeux avec deux manettes de commandes et 8 connecteurs pour interfaces de périphériques.

- clavier complet et fiable du type machine à écrire
- interface magnétophone rapide (1500 bauds)
- entrées/sorties pour périphériques entièrement «buffered», avec interruptions chaînées et priorités pour accès direct à la mémoire

entrée/sortie pour jeux : 4 entrées pour manettes, 3 pour contacts extérieurs et 4 sorties 1 bit pour commandes.

BASIC

Le BASIC d'APPLE II, contenu dans 6 K de ROM, opère sur des entiers et comprend, en plus du BASIC normal, les perfectionnements suivants :

- nom des variables de longueur illimitée (alpha, beta \$)
- erreurs de syntaxes et de dimension signalées dès l'entrée
- multiples instructions par lignes
- traitement des entiers de -32767 à + 32767
- vecteurs alphabétiques jusqu'à 255 caractères ; vecteurs d'entiers à une dimension
- commandes graphiques : COLOR = Expr., PLOT, HLIN et VLIN tracent des lignes horizontales et verticales, SORN (x, y), (reconnait la couleur de l'écran)
- PDL (0 à 3) reconnait la position de 4 manettes
- sélection des modes d'affichage TEXTE et GRAPHIQUE.
- exécution en mode immédiat de presque toutes les instructions
- modification des limites d'accès à la mémoire sans destruction du programme
- point d'arrêt et de reprise des programmes
- mode de mise au point = trace des numéros d'instruction et des valeurs des variables
- sélection des périphériques d'entrée/sortie
- accès mémoire direct (PEEK, POKE et CALL)
- instructions de rangement et de chargement sur cassette
- numérotage automatique des lignes de programme
- fonctions RND, SGN, ASC, LEN et ABS
- instruction POP pour sauter un niveau de retour de sous programme
- permission d'utiliser des expressions pour GOTO et GOSUB (calcul des adresses)

MONITEUR

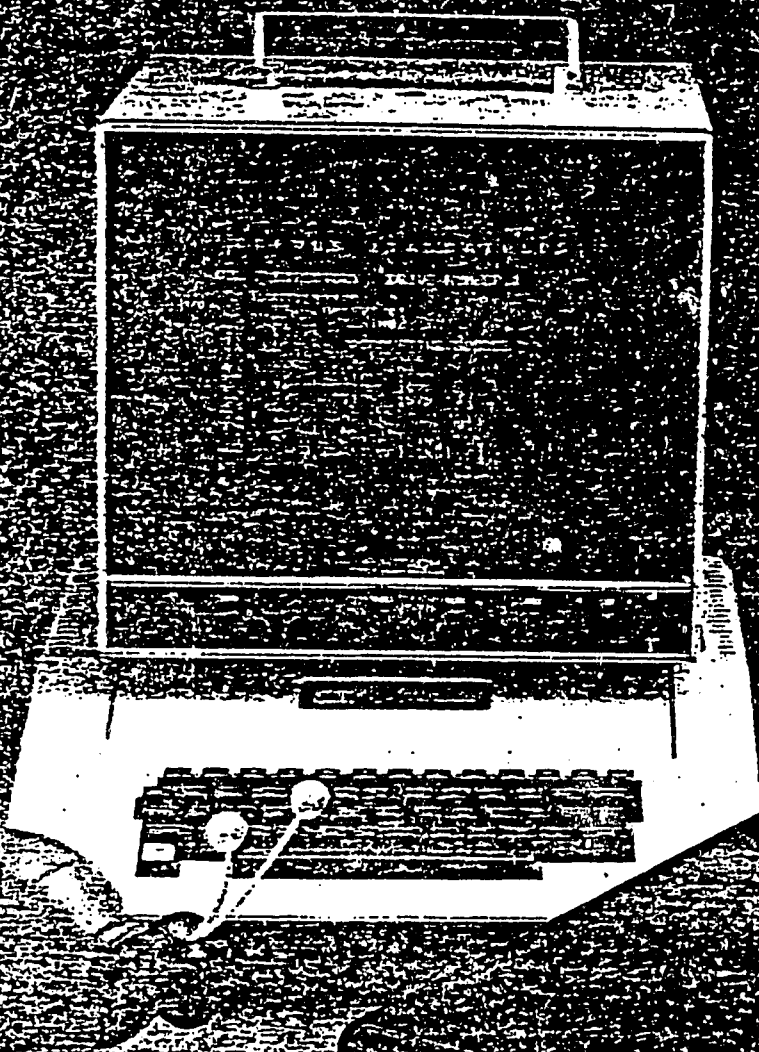
- contenu dans 2 K ROM
- commande de l'affichage (routines d'affichage intelligent) et du secteur
- fenêtre de texte ajustable (écran protégé)
- modes pas-à-pas et trace simulé par software
- processeur à 16 bits simulé par software
- mini-assembleur et désassembleur
- assignation des entrées/sorties
- édition des entrées au clavier
- routines de virgule flottante
- interruption du programme
- examen et modification des registres
- routines de lecture/écriture de cassettes
- sélection vidéo normale ou inversée
- addition/soustraction hexadécimale pour calcul des adresses de branchement.

OPTIONS

- Imprimante - Mini floppy - Transmission - etc.

MOVING DATA AT A SNAIL'S PACE BECAUSE YOU'RE FLOPPY BOUND?

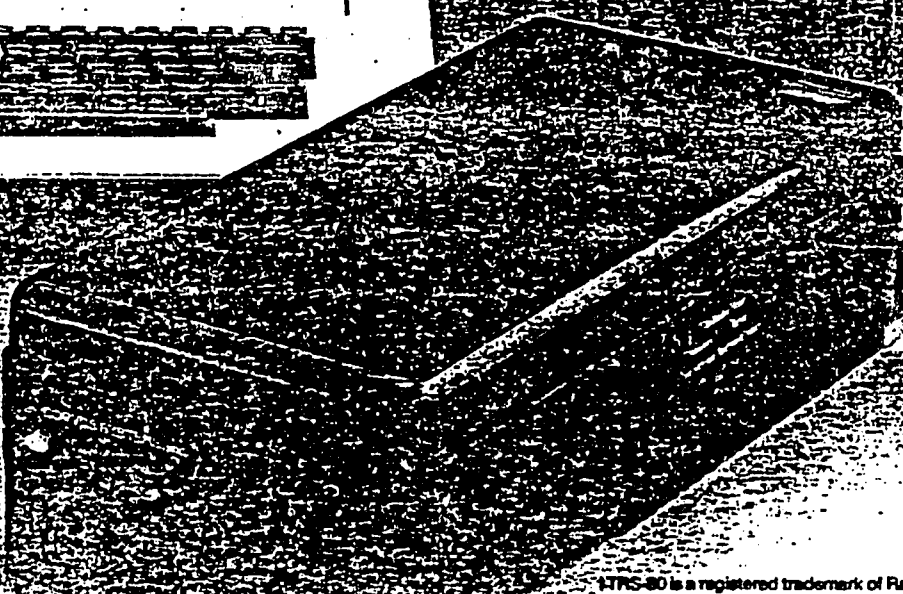
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CORVUS SYSTEMS, Inc.

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San Jose, California 95128
408/246-0461

Distributor information and dealer package available on request.

THE CORVUS 11A DISK SYSTEM SPECIFICATION

A ten million byte disk add-on for the Apple Computer*

The Corvus 11A is an intelligent peripheral that adds cost effective mass storage to the Apple* Computer, while maintaining total compatibility with existing hardware and software. The system package consists of the IMI 7710 "Winchester" disk drive with Corvus intelligent controller, a complete power supply, and an intelligent module for the Apple, consisting of an interface card and its associated software.

ULTRA COMPACT 10 MEGABYTE DISK DRIVE

The disk drive is a technology leader that provides eleven million bytes of unformatted magnetic storage in less than two-thirds of a cubic foot of space. The unit features a closed loop servo. This assures accurate and rapid read/write head positioning independent of temperature and other environmental factors. There are three data surfaces and one servo surface on two eight inch platters.

The drive electronics are contained in three 7.5 inch by 10.5 inch printed circuit boards which are enclosed within the drive housing. This housing also contains a fourth PC card of the same dimensions which is the Corvus intelligent disk controller.

CORVUS INTELLIGENT CONTROLLER

This controller is based on the Z-80 processor with 16K of Random Access Memory. Firmware for this controller provides such features as:

- Sector Buffering
- Read after write
- Error recovery with automatic retries
- Error statistic monitoring and diagnosis
- Transparent formatting with CRC error detection
- High speed data transfer utilizing DMA

CORVUS/APPLE INTERFACE

The system interfaces to the Apple* processor by means of a standard interface card which can be plugged into any of the processor's seven I/O slots. This interface and associated controller can support four disk drives in a simple daisy chain. To maintain total compatibility with Apple* DOS, the user is restricted to two drives. The interface card provides a buffered parallel I/O that is capable of transferring data at a rate of over fifty kilobytes/second. The system software is contained in a two thousand byte ROM which adheres to all Apple standards for such a device.

CORVUS SOFTWARE

The system software resident in the ROM interfaces with the Disk II* operating system to provide complete compatibility with DOS commands and existing DOS applications. This is accomplished by maintaining 82 physical volumes on disk that are sector by sector compatible with Apple* volumes. These volumes are all concurrently "on-line," such that any application program can utilize the entire data base by simple use of standard DOS syntax.

A master file directory of all volumes is attainable by a simple "CATALOG, V99." Execution of this command will present an output of the File Name of each volume. A volume may be "hidden" (or unlisted) and thus locked out, by simply locking that first File.

The software system features a bootstrap loader that transfers a complete memory image from disk to memory and then executes any Basic Program (either Integer or Applesoft) contained in that image. The generation of this memory image is a standard Corvus utility.

The system also contains copy utilities which can transfer an entire volume from any physical volume (be it hard disk or floppy) to any other physical volume. Additional utilities include complete disk backup to a second CORVUS 11A disk drive and a comprehensive self-diagnostic package which provides transient error statistics from the normal disk drive operation.

*Trademark Apple Computer

PERFORMANCE SUMMARY

Size of Drive	5.5 x 8.5 x 19.25 inches
Size of Power Supply	5.5 x 4.5 x 15.5 inches
Power Consumption	250 Watts
Weight of Drive	22 lbs
Weight of Power Supply	13 lbs
Formatted Data Capacity	9.5 Megabytes
Minimum Seek Time	10 milliseconds
Average Seek Time	50 milliseconds
Average Latency	8.3 milliseconds

CORVUS SYSTEMS, INC.

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